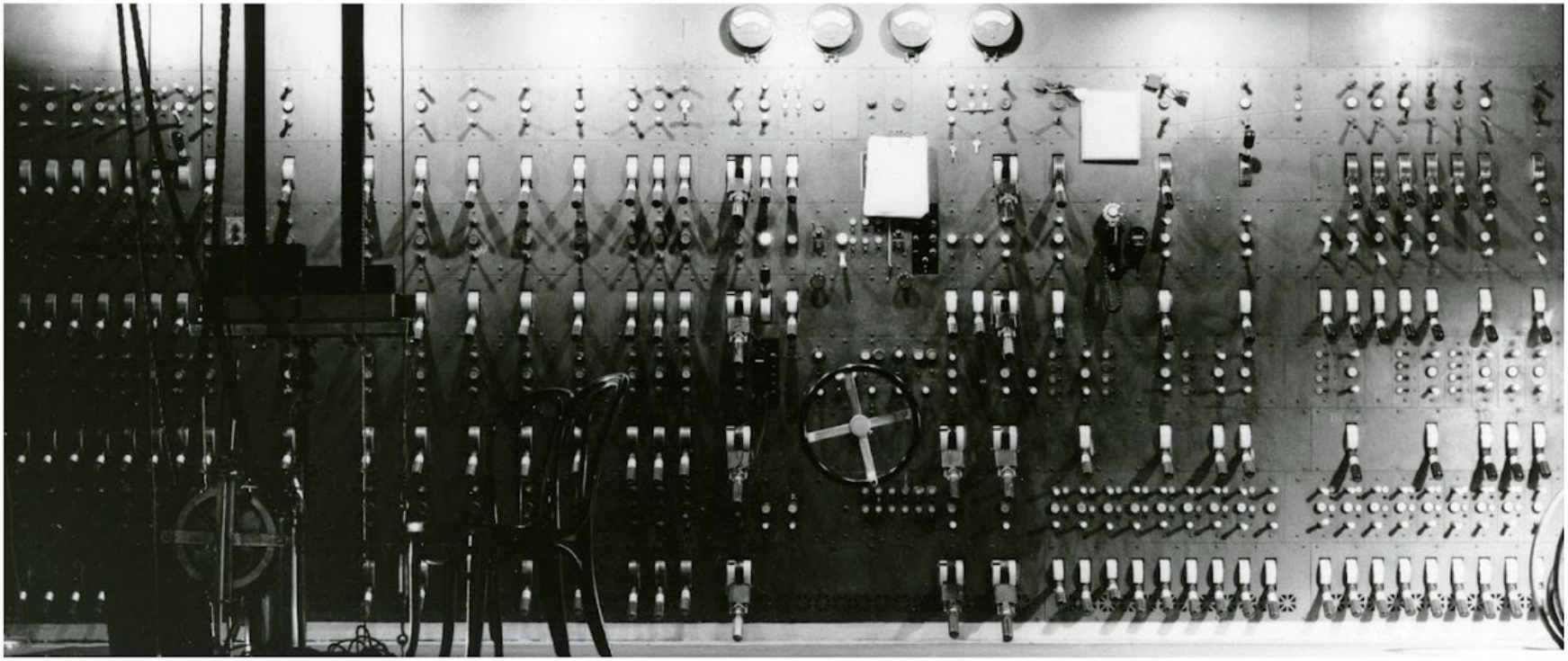
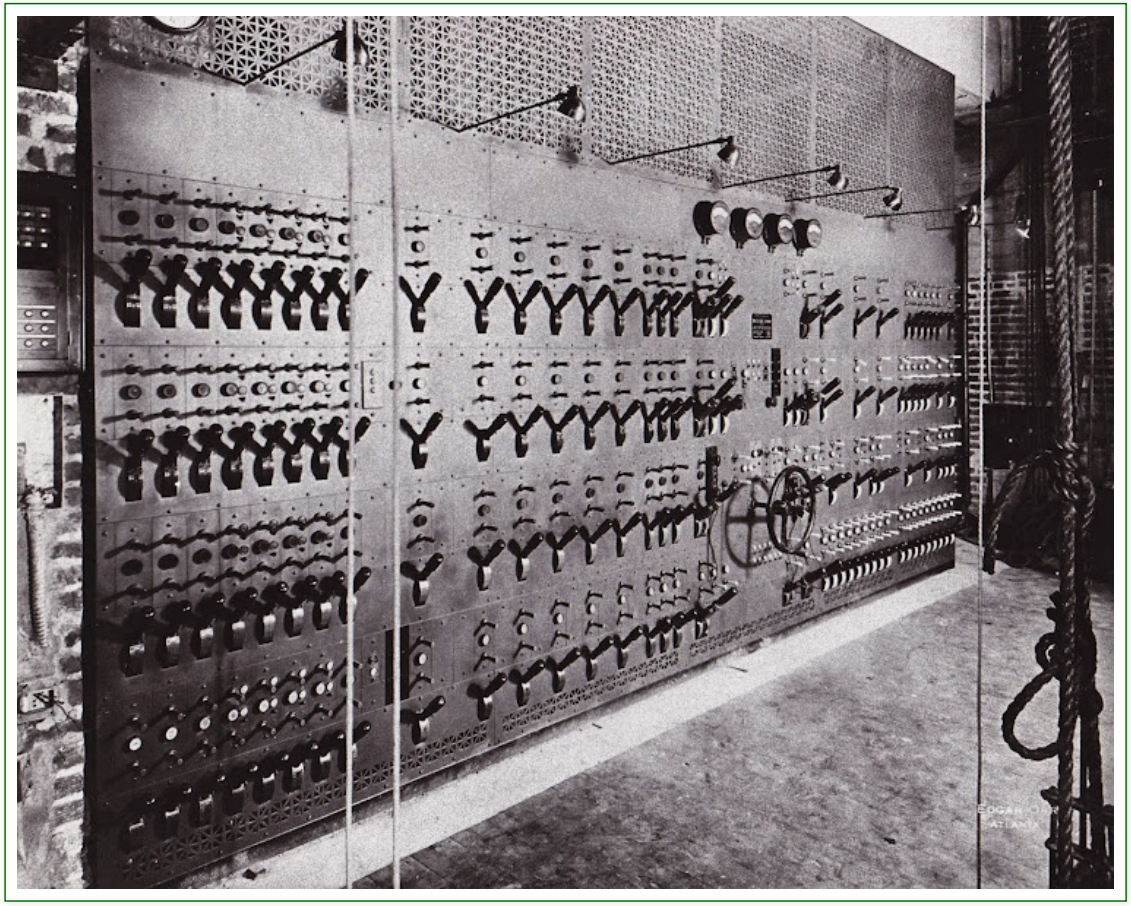
HUB STAGE SWITCHBOARD OPERATING MANUAL



2500 light bulbs in the Atlanta Fox Theatre were controlled by the Hub Pre-set Selective Theatre Control (Resistance Type) or Switchboard for short, the nerve center of the Theatre. Press releases asserted that "all the switches are fully protected, the operator being fronted by an entirely insulated board," meaning that unlike its primitive ancestors of a mere ten years prior, the Fox board was dead front with slot-closing switches and dimmer control levers. The first operator so insulated was Cliff Clower, IATSE Local No. 41.



A dead-on front view of the entire board:

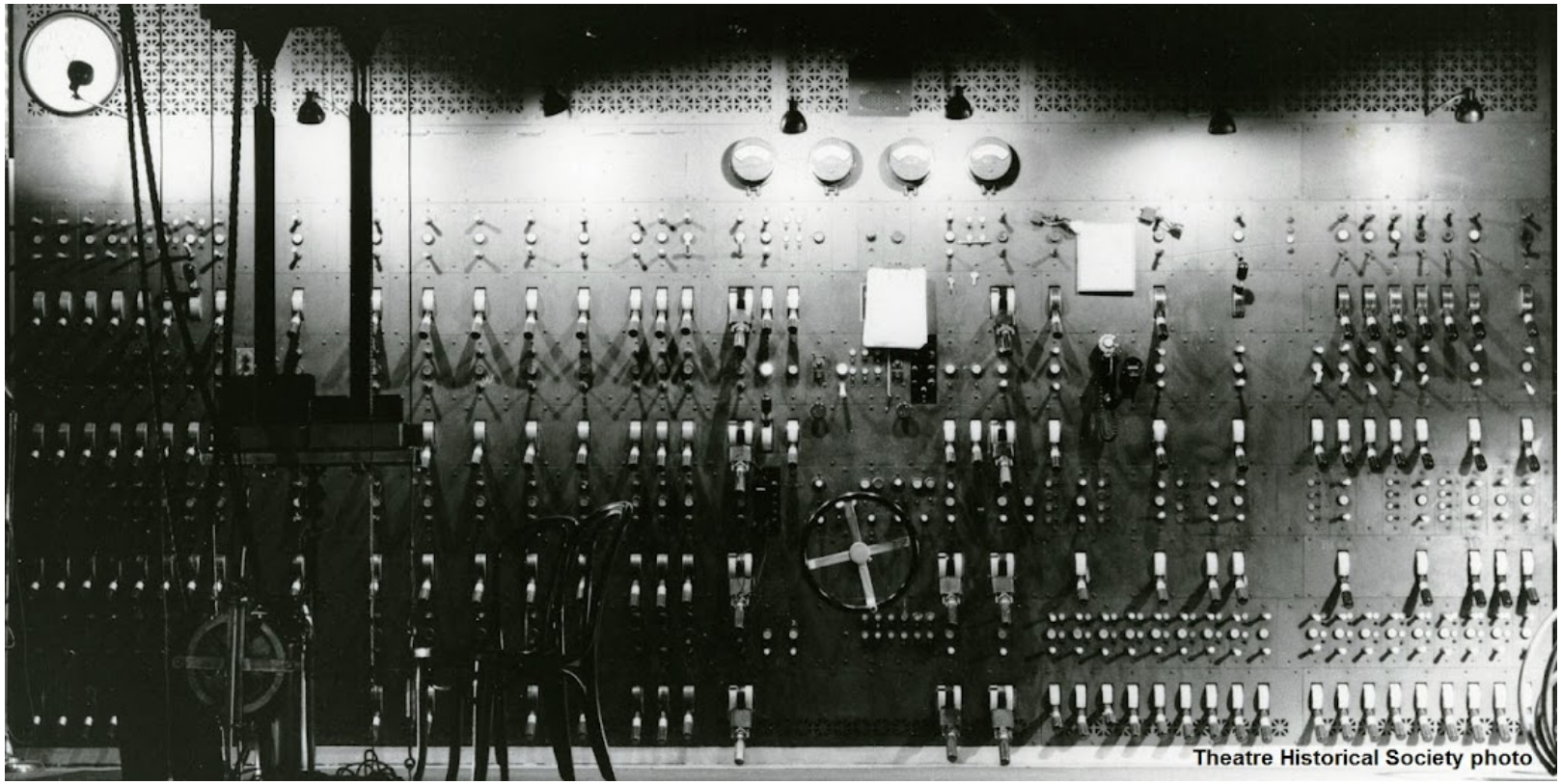
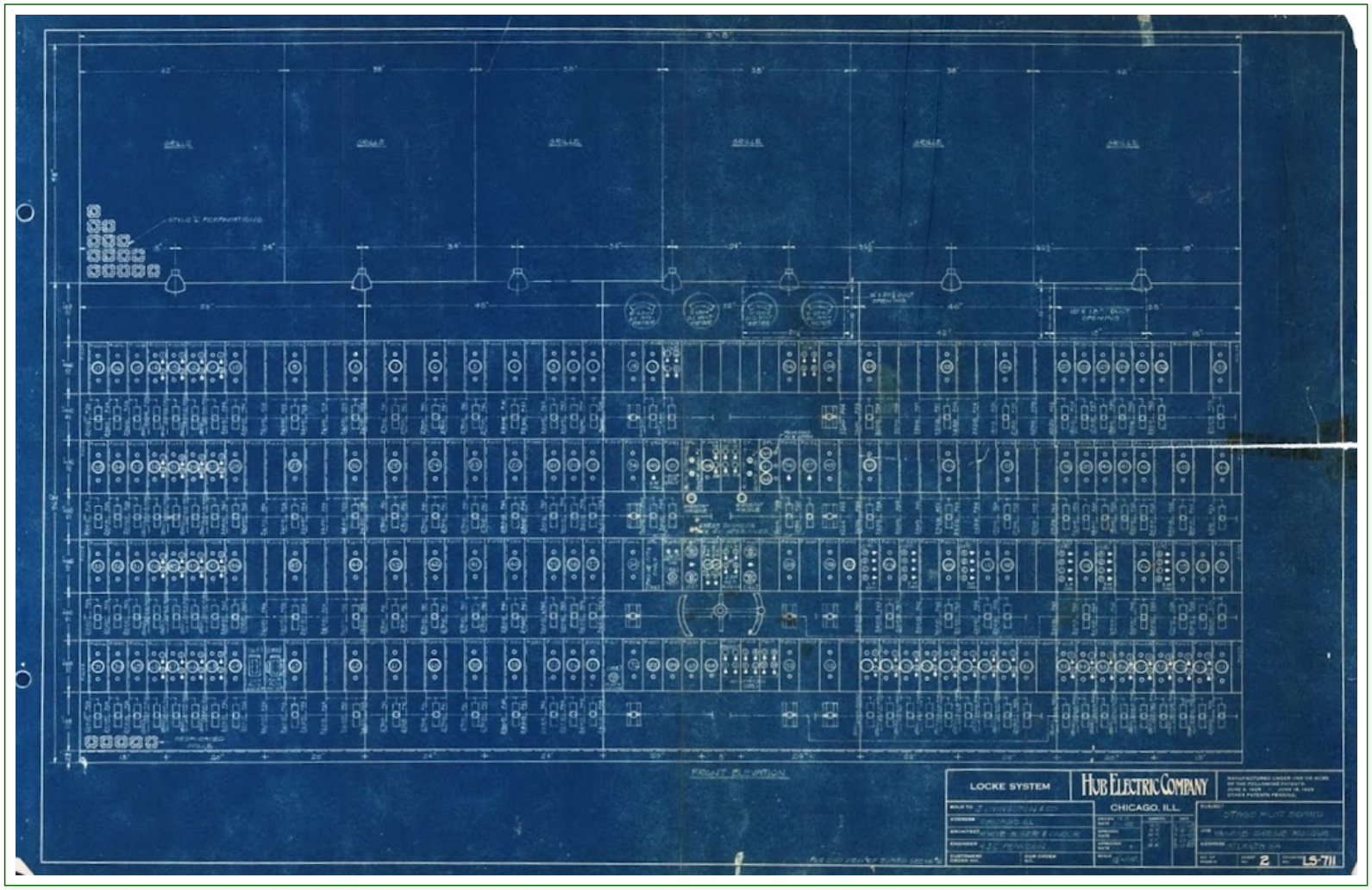
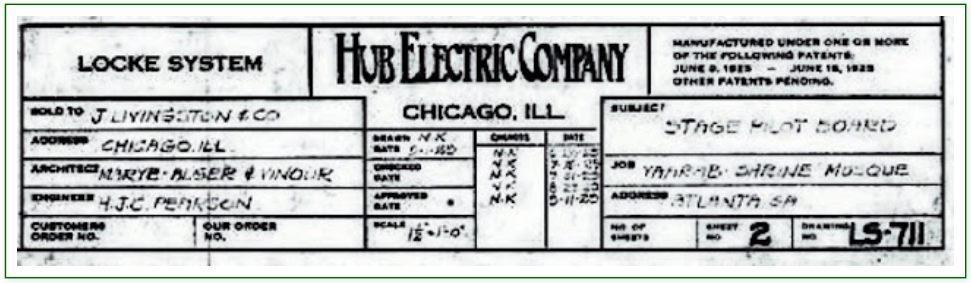


Photo by Irving Glazer, 1966, courtesy Patrick Seymour, Theatre Historical Society

The shop drawing, courtesy Rick Zimmerman:

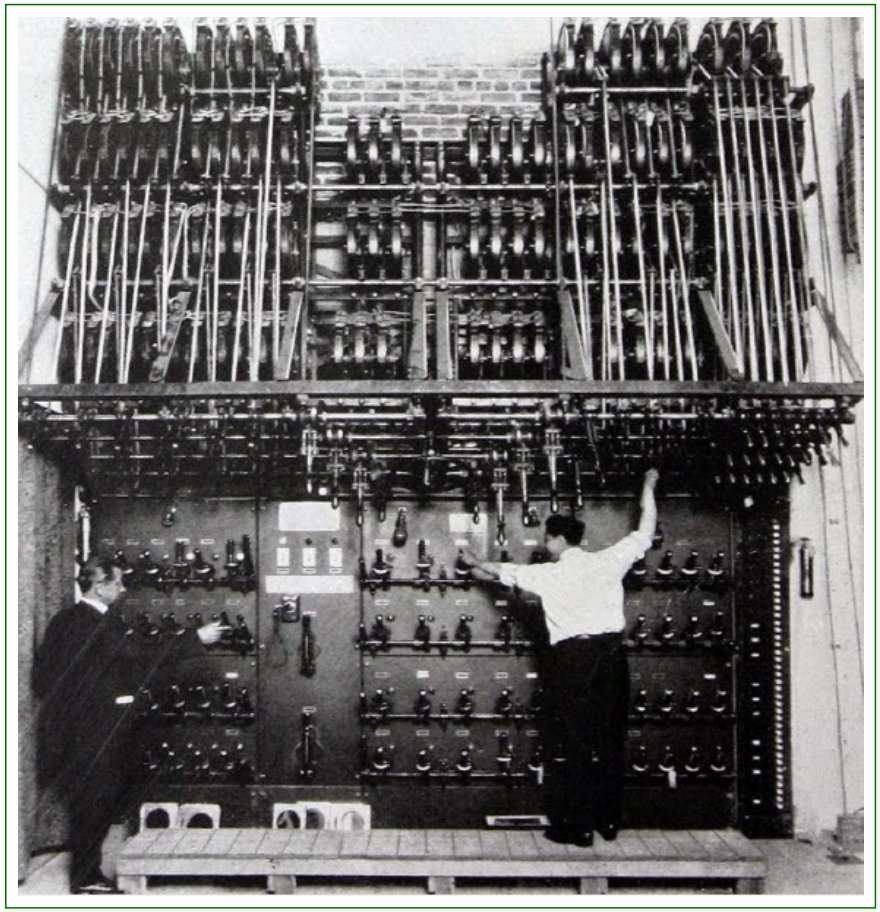


The board was built exactly as show in the drawing, final version May 11, 1929.



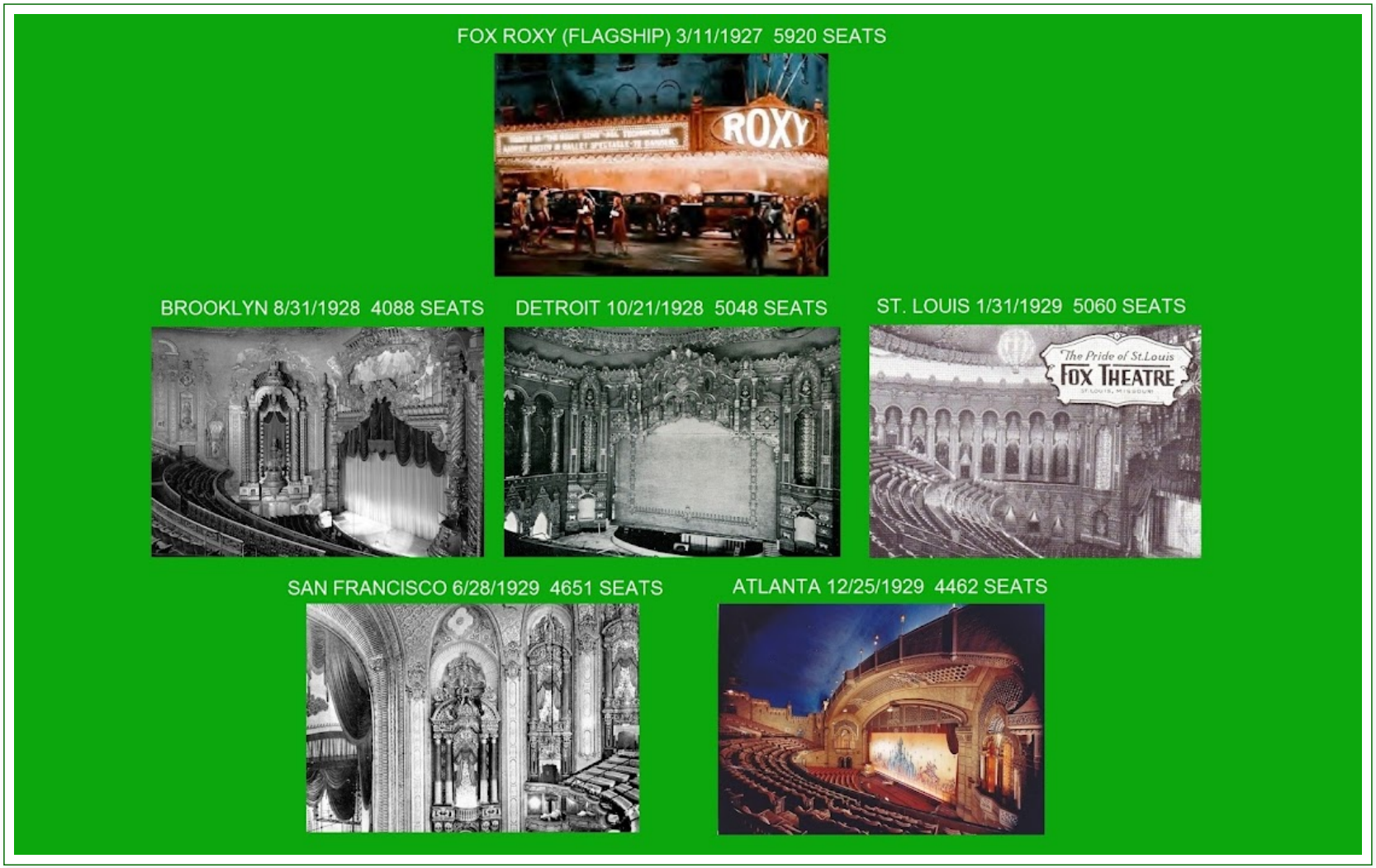
The Hub Switchboard represented the state of the art in compactness, and its handsome appearance was in stark contrast to the ungainly

boards of a decade before, an example shown here.



Architect Ollivier J. Vinour of the Atlanta firm Marye Alger & Vinour was responsible for the aesthetics of the Atlanta Fox, but consulting engineer C. Howard Crane was in complete charge of the physical layout and all details theatrical, as reflected in his preliminary 1928 drawing set. Crane was the primary architect of the Brooklyn, Detroit and St. Louis Fox Theatres, and Vinour had worked in Crane's Detroit office. As shown below, there were five Super-Deluxe Foxes , crowned by the New York Roxy, the flagship of the chain.

To see the plans of the Atlanta Fox Theatre as of 1929, click here.



[The Roxy, Brooklyn, and San Francisco were later demolished.]

Eugene Braun, the Electrical Supervisor of Fox's New York Roxy Theatre and a lighting designer before the term came into usage (and the first to specialize in musical stage spectacles) traveled down from New York "to superintend" the installation of the Switchboard and all other stage lighting apparatus.

HUB PRODUCTS FROM SERVICE TO SOCKET

THE LARGEST HUB SWITCHBOARD OPERATES IN THE WORLD'S BEST PAYING THEATRE

THE world famous Roxy Theatre in New York City has grossed an average of more than $100,000.00 a week since its opening on March 11, 1927. It is, doubtless, the best paying theatre in the world—and its outstanding success is due to its excellent all-round programs—including its marvellous stage presentations.

And the gigantic Hub Switchboard—the largest we have ever installed has played an important part in the success of this theatre.

HUB ELECTRIC CO.

Footlights
Border Lights
Stage Pockets
Cove Lighting
Exit Signs

Complete Theatre Lighting Equipment
Factory and General Offices
2219-2225 West Grand Avenue
Telephone Seeley 6440-1-2

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Suite 323—185 N. Clark St.
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1220 Madison Ave.
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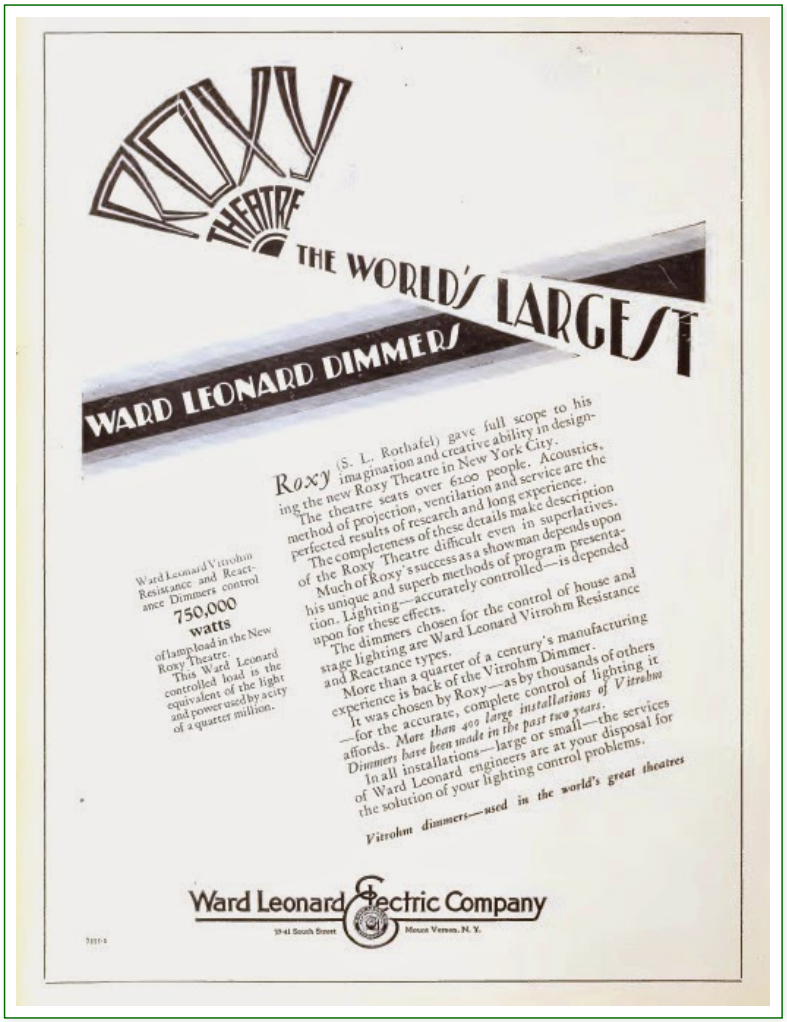
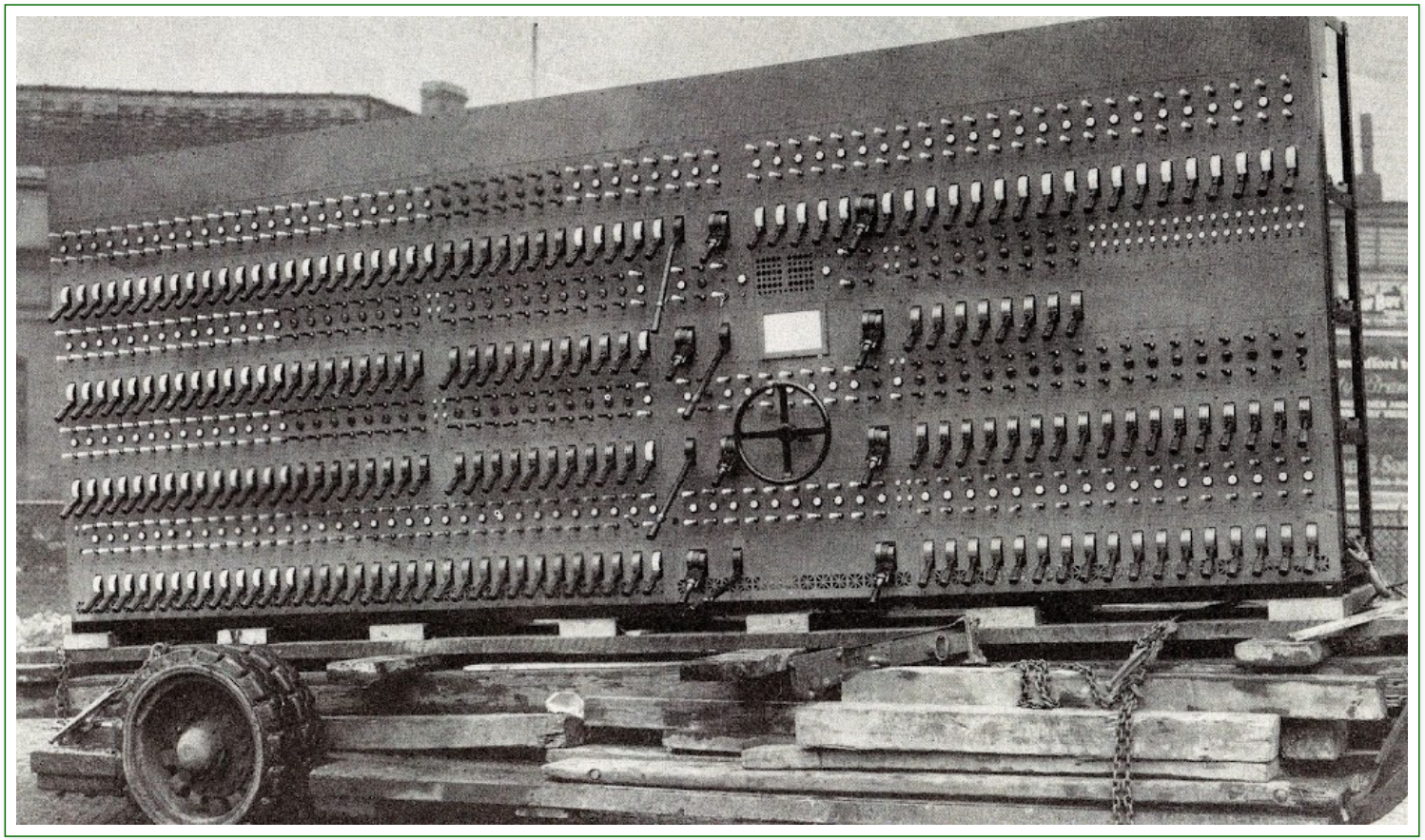
Milwaukee, Wis.
123 Second St.
Phone Grand 1589

Spot Lights
Service Boards
Panel Boards
Usher Signals
Directional Signs
Flood Lights

Ward Leonard Electric, who manufactured the dimmers used in Hub Switchboards, also laid claim to the Roxy.

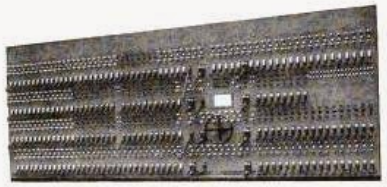

ROXY THEATRE
THE WORLD'S LARGEST
WARD LEONARD DIMMERS
Roxy (S. L. Rothafel) gave full scope to his imagination and creative ability in designing the new Roxy Theatre in New York City.
The theatre seats over 6,200 people. Acoustics, method of projection, ventilation and service are the perfected results of research and long experience.
The completeness of these details make description of the Roxy Theatre difficult even in superlatives.
Much of Roxy's success as a showman depends upon his unique and superb methods of program presentation. Lighting—accurately controlled—is depended upon for these effects.
The dimmers chosen for the control of house and stage lighting are Ward Leonard Vitrohm Resistance and Reactance types.
More than a quarter of a century's manufacturing experience is back of the Vitrohm Dimmer.
It was chosen by Roxy—as by thousands of others—for the accurate, complete control of lighting it affords. More than 400 large installations of Vitrohm Dimmers have been made in the past two years.
In all installations—large or small—the services of Ward Leonard engineers are at your disposal for the solution of your lighting control problems.
Vitrohm dimmers—used in the world's great theatres
Ward Leonard Electric Company
19-41 South Street
Mount Vernon, N. Y.
Ward Leonard Vitrohm Resistance and Reactance Dimmers control
750,000
watts
of lamp load in the New Roxy Theatre.
This Ward Leonard controlled load is the equivalent of the light and power used by a city of a quarter million.

The New York Roxy Hub Switchboard (1927) was claimed to be the largest in the world and was a yard wider than the Fox board, which measured 19 foot, eight inches wide.



Frank Decker was the man behind the Hub Electric, and Hub Switchboards were the top of the line.

THERE MUST BE A REASON



Roxy stage control board

Hub Electric Company switchboards are built to last thru the ages. They are assembled by master craftsmen and can be depended upon in any size installation.

WHY the Hub Electric Company was selected by the builders of the world's largest theatre to build the world's largest switchboard for it. Ask one of the many satisfied users, among them the world's largest producers.

KEITH ALBEE—PUBLIX—FLO ZIEGFELD—PROCTOR—FOX—LOEW—GRAUMAN

Main office and works
2219 Grand Ave.,
Chicago, Ill.

HUB ELECTRIC CO.

The Electrical Folks for Theatre Folks

New York Sales Office
1457 Broadway
J. H. Rohs, Dist. Mgr.

Merely "Good Enough" Is Not Good Enough for Hub Products

The Hub Electric Company has always been in the forefront to advance the cause of quality. We have never believed that it was sufficient to make our products "good enough." We have always endeavored to make them better; to put in that extra measure of value; to maintain our standards always, and to raise them whenever possible. This policy has been a tremendous factor in making us leaders in our line.

The above paragraph is quoted from the foreword of the latest edition of the catalogue of Hub products and installations, and handbook of advanced motion picture theatre lighting. It tells in a few well chosen words the policies which have been instrumental in placing this organization in the forefront of the electrical lighting industry.

By the way, have you received a copy of this wonderful file-catalogue? It will be a pleasure to send you one for the asking.

HUB ELECTRIC COMPANY

Sound Reproduction Equipment
Stage Switchboards
Footlights
Borderlights
Stage Pockets
Emergency and Exit Lighting Units

Complete Theatre Lighting Equipment

Factory and General Offices
2219-2225 West Grand Avenue
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Cove Lighting
Exit Signs
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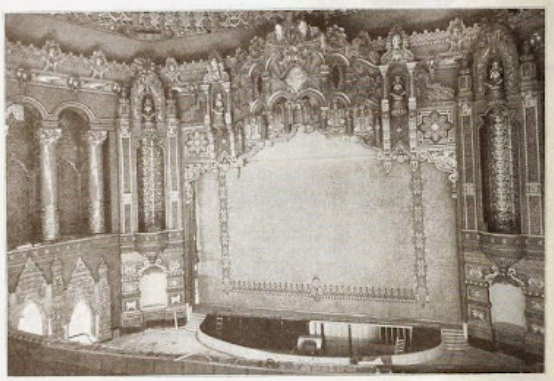
Panelboards
Usher Signals
Directional Signs
Flood Lights
Mobile Flood Lighting Equipment

Hub advertisements for the Detroit and St. Louis Fox Theatres which were identical twins.

NEW FOX THEATRE—DETROIT

FOX



HUB

The installation of a Hub Switchboard in the new Fox, Detroit, puts Hub in the next to largest theatre in the country. Included in the order is the stage and auditorium lighting and control. We will be glad to estimate on your theatre job without obligation.

DOWN TOWN CHICAGO
SALES OFFICES
Suite 3[illegible] 35 N. Clark St.
Phone Dear 1588

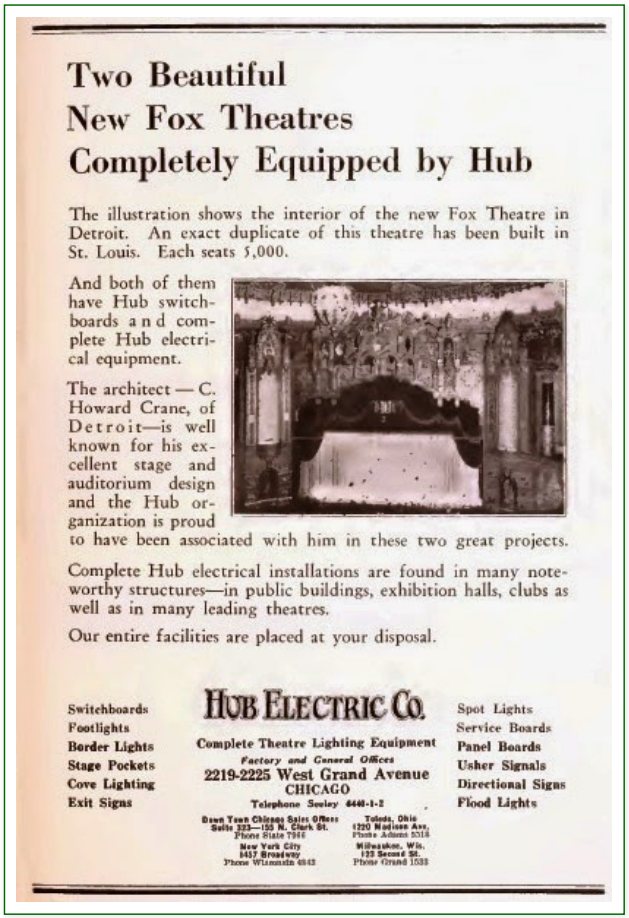
NEW YORK CITY
1482 Broadway
Phone W[illegible] 1812

HUB ELECTRIC CO.
Factory and General Offices
2219-25 West Grand Ave.
Chicago

TOLEDO, OHIO
3220 Madison Ave.
Phone [illegible]

MILWAUKEE, WIS.
123 [illegible] St.
Phone Grand 1831

HUB PRODUCTS FROM SERVICE TO SOCKET



Two Beautiful New Fox Theatres Completely Equipped by Hub

The illustration shows the interior of the new Fox Theatre in Detroit. An exact duplicate of this theatre has been built in St. Louis. Each seats 5,000.

And both of them have Hub switchboards and complete Hub electrical equipment.

The architect — C. Howard Crane, of Detroit—is well known for his excellent stage and auditorium design and the Hub organization is proud to have been associated with him in these two great projects.

Complete Hub electrical installations are found in many noteworthy structures—in public buildings, exhibition halls, clubs as well as in many leading theatres.

Our entire facilities are placed at your disposal.

Switchboards
Footlights
Border Lights
Stage Pockets
Cove Lighting
Exit Signs

HUB ELECTRIC CO.

Complete Theatre Lighting Equipment

Factory and General Offices
2219-2225 West Grand Avenue
CHICAGO
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Down Town Chicago Sales Offices
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Phone State 7966

New York City
1457 Broadway
Phone Wisconsin 4843

Toledo, Ohio
1220 Madison Ave.
Phone Adams 5518

Milwaukee, Wis.
123 Second St.
Phone Grand 1533

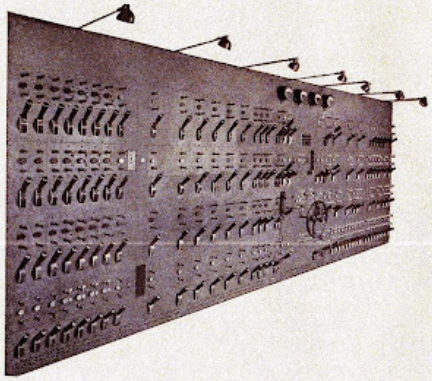
Spot Lights
Service Boards
Panel Boards
Usher Signals
Directional Signs
Flood Lights

The Atlanta Fox Switchboard was featured on this page from the 1930 Hub catalog. Fully loaded and including un-dim and constant circuits, the alternating current section of the Switchboard drew 1600 amperes on each of its three phases, or a total pull of 572 KW (kilowatts). DC capacity of 700 amps at 100 volts was sufficient to feed fourteen onstage carbon arc follow spotlights.

PRE-SET SELECTIVE THEATRE CONTROL (Resistance Type)

For Vaudeville, Legitimate and Combination Theatres, Moderate Size Public Auditoriums, Shrine Mosques and Fraternal Temples, having capacity up to 500 KW.

This type of control has met with much favor among deluxe theatre producers. Where speed, accuracy and quick changes are requisites, this type of board has proven, after years of application, to meet the most exacting demands of universal service, being a composite board with the master control stations located in the center, with the auditorium controls in one section and the stage controls in the other section, with scenes set to the masters and manipulated from this central station. As many as eighteen combinations, or scenes, may be pre-determined and brought into play at will. All scene switches and dimmer handles are visible from the operator's station. Changes, shifts, hold-thrus, fade-outs, transfers, black-outs or any other combination, may be manipulated with very little effort. Each unit controlled is provided with dual control, permitting many features and manipulations not possible on any other type of board. The board is so designed that trouble is immediately indicated and located without leaving the switchboard. Switch and dimmer handles are identified by color, interlocking cross control for dimmer groups, slow motion master for dimmer control, combination pilot lamp and illuminated indicator for each control. Space is provided in central control station for the mounting of telephone instruments, orchestra, dressing room and kino booth signals.



All boards of this type are regularly provided with a key lock switching device to prevent tampering. Pilot board is manufactured in one complete unit, assembled and wired; all internal wiring is extended to the terminals at the top of the board, provided with key numbers. The entire structure is built of extremely heavy angle iron frame with vertical and lateral cross bracing, mounted on heavy channel iron. All dimmer shafts are supported in steel roller bearings, with a four way adjustable bearing bracket and are counterbalanced to insure easy operation of dimmers.

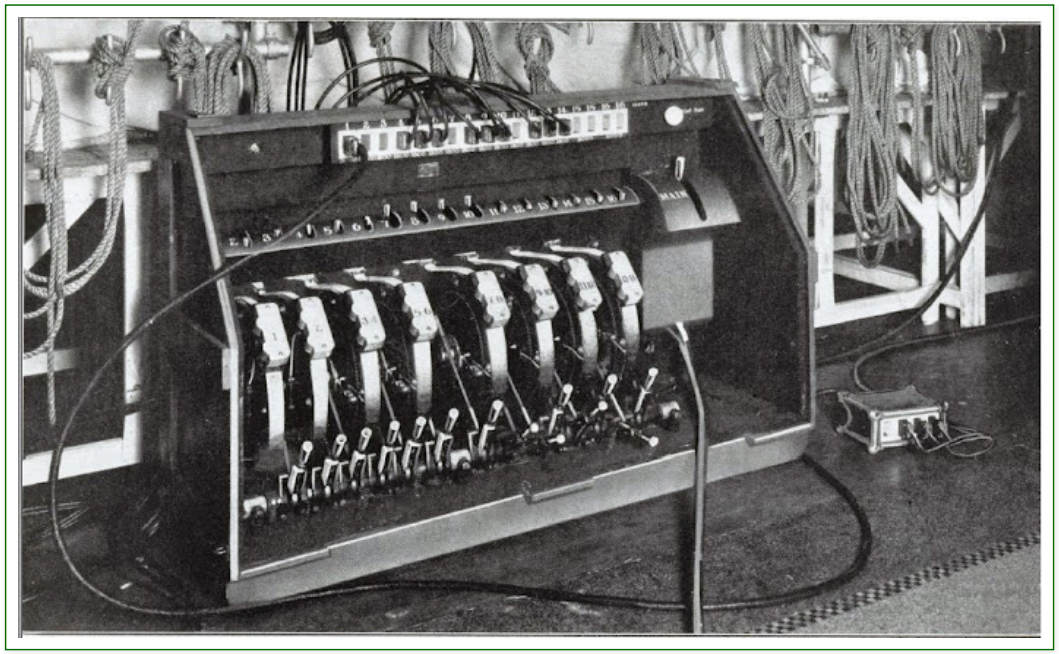
The actual switching operation is accomplished by a contactor board usually located in the basement directly below the pilot board, actuated by the pilot controls at the stage switchboard. The board is made up of the necessary dual control heavy duty type contactors, equipped with special making and breaking devices to withstand the heavy inrush of current, characteristic of type C lamps. The bussing of the contactor board is sectional to facilitate handling, with special arrangements for load balancing. All control wiring extended to the top, with terminals key numbered to match the terminals on the pilot board.

Included with the equipment is a sectional magazine panel and cabinet usually located at the rear of the pilot board where the branch circuits for the control features are segregated and numbered, including indicators as to group and color. The complete equipment is assembled, inspected, tested and adjusted before being shipped.

Data and standard schedule sheets, as illustrated in this handbook are available, together with our engineering service to architects, engineers and contractors.

To see the complete 1930 Hub Catalog http://foxfact.blogspot.com/2014/12/complete-1930-hub-electric-catalog.html

The Fox also provided a 400 amp Company Switch for productions which traveled with piano boards, so named because of their great weight. Resistance dimmers were constructed of vitreous china (glazed porcelain) set into cast iron frames and when dimmed ran hot.



Four vendors supplied the Fox stage lighting equipment: Hub, for control, plugging devices, Borderlights and Footlights; Kliegl for stage and house spotlights and floods; and Brenkert and Hall & Connolly for the three carbon arc Front Lights. To read more about the Front Lights, click http://backstagefox1929.blogspot.com/2014/03/part-iii-talking-picture-projection.html

HUB PRODUCTS FROM SERVICE TO SOCKET
Don't Grope in the Dark
Install Hub-o-lite Stage Floor Pockets
HUB-O-LITE is a step ahead of all other floor pockets because it is equipped with a pilot light which automatically illuminates when the cover is opened, and it remains burning until it is closed.
Hub-o-lite also has another advantage over all others. In addition to the regular designation discs, each receptacle is provided with a colored jewel which glows whenever the door is opened—thus giving a positive light indication to the operator placing the plugs.
Besides these refinements and improvements, Hub-o-lite Pockets are well built. They are sturdy, durable, and automatically foolproof with the wiring entirely concealed by a partition. They are provided with 50 and 100 ampere plugs and receptacles. Write for specifications and prices.
We design and build everything required for the finest theatre lighting systems. Write us about your lighting problems or requirements. We will gladly help you.
HUB ELECTRIC CO.
Footlights
Border Lights
Stage Pockets
Cove Lighting
Exit Signs
Complete Theatre Lighting Equipment
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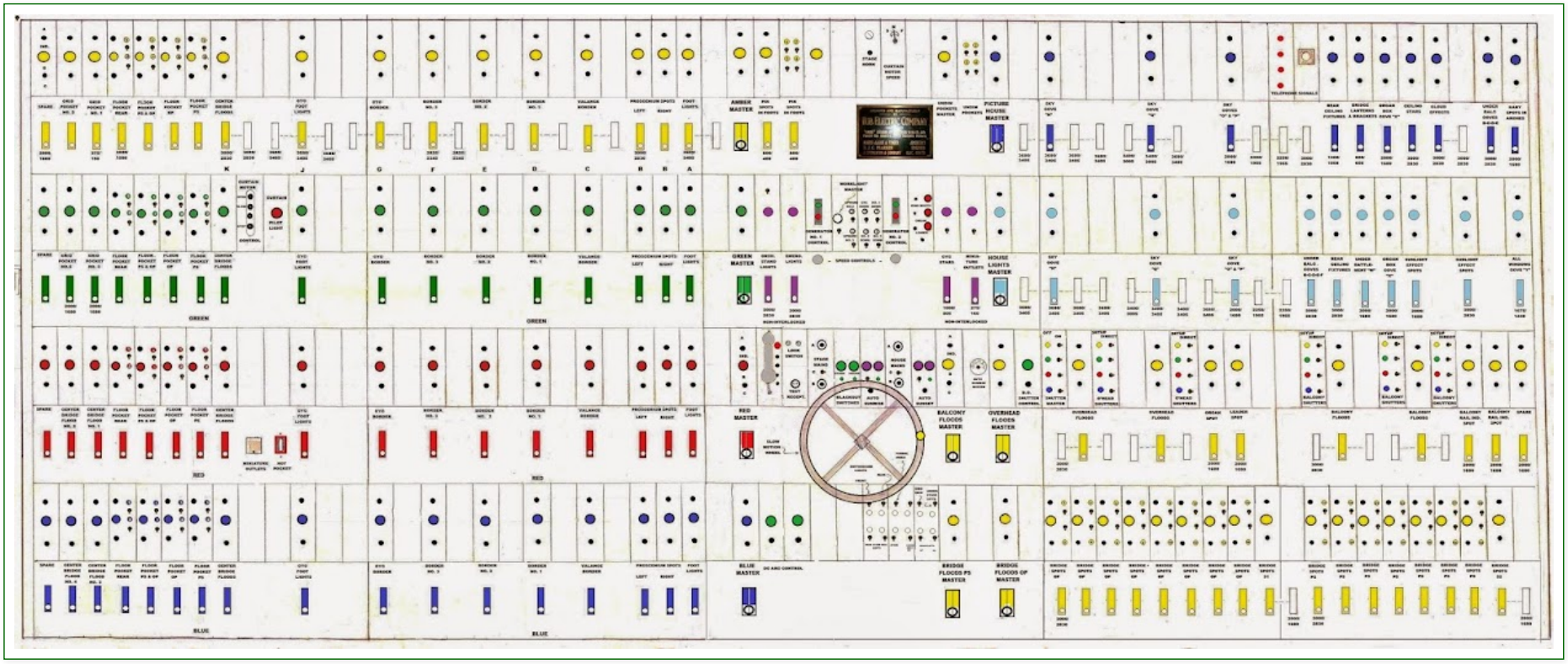
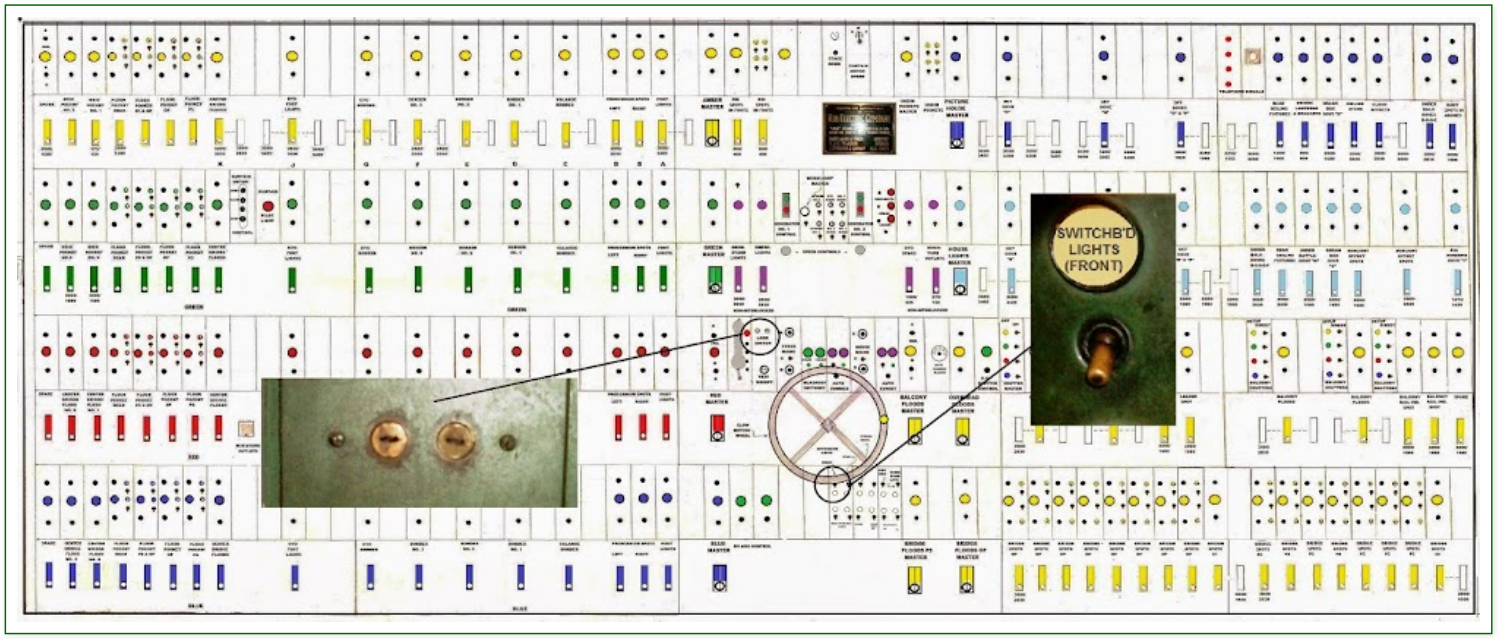
2219-2225 West Grand Avenue
Spot Lights
Service Boards
Panel Boards
Usher Signals
Directional Signs
Flood Lights
BALCONY SPOTLIGHTS
with Remote Control Color Frames
CONTROL BOARD BACKSTAGE
SPOTLIGHTS IN BALCONY RAIL
EQUIPPED with an electro-magnetic device which permits their complete and entire operation, including the control of four or more color frames, to be accomplished from a remote point. It is now possible to install a single group of spotlights that will give all the color variations obtained with several groups heretofore; or install the same number of spotlights, obtaining four or five times as much light for each color.
Write for Bulletin No. 3
KLIEGL BROS
UNIVERSAL ELECTRIC STAGE LIGHTING CO., INC.
321 WEST 50th STREET
NEW YORK, N.Y.
BRENKERT
HALL & CONNOLLY
HIGH INTENSITY
LAMPS

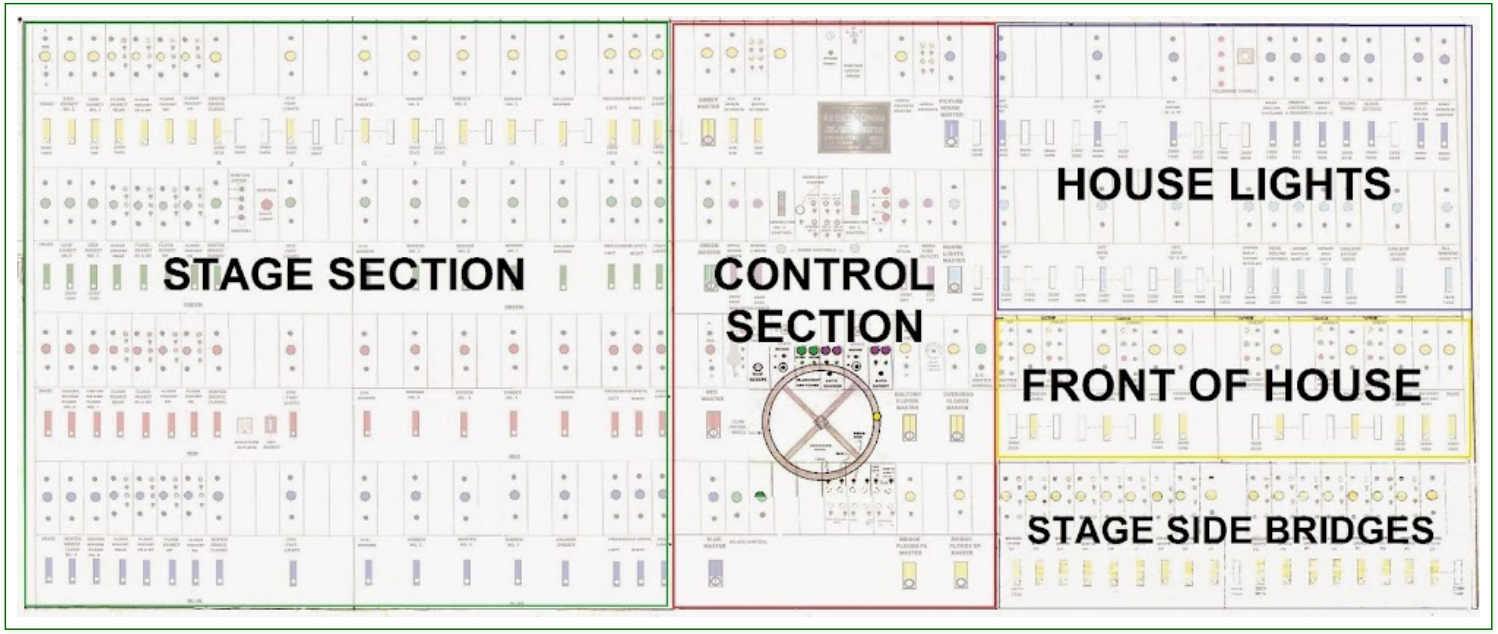
A diagrammatic drawing of the 200 dimmer Atlanta Fox Hub Lighting Switchboard.



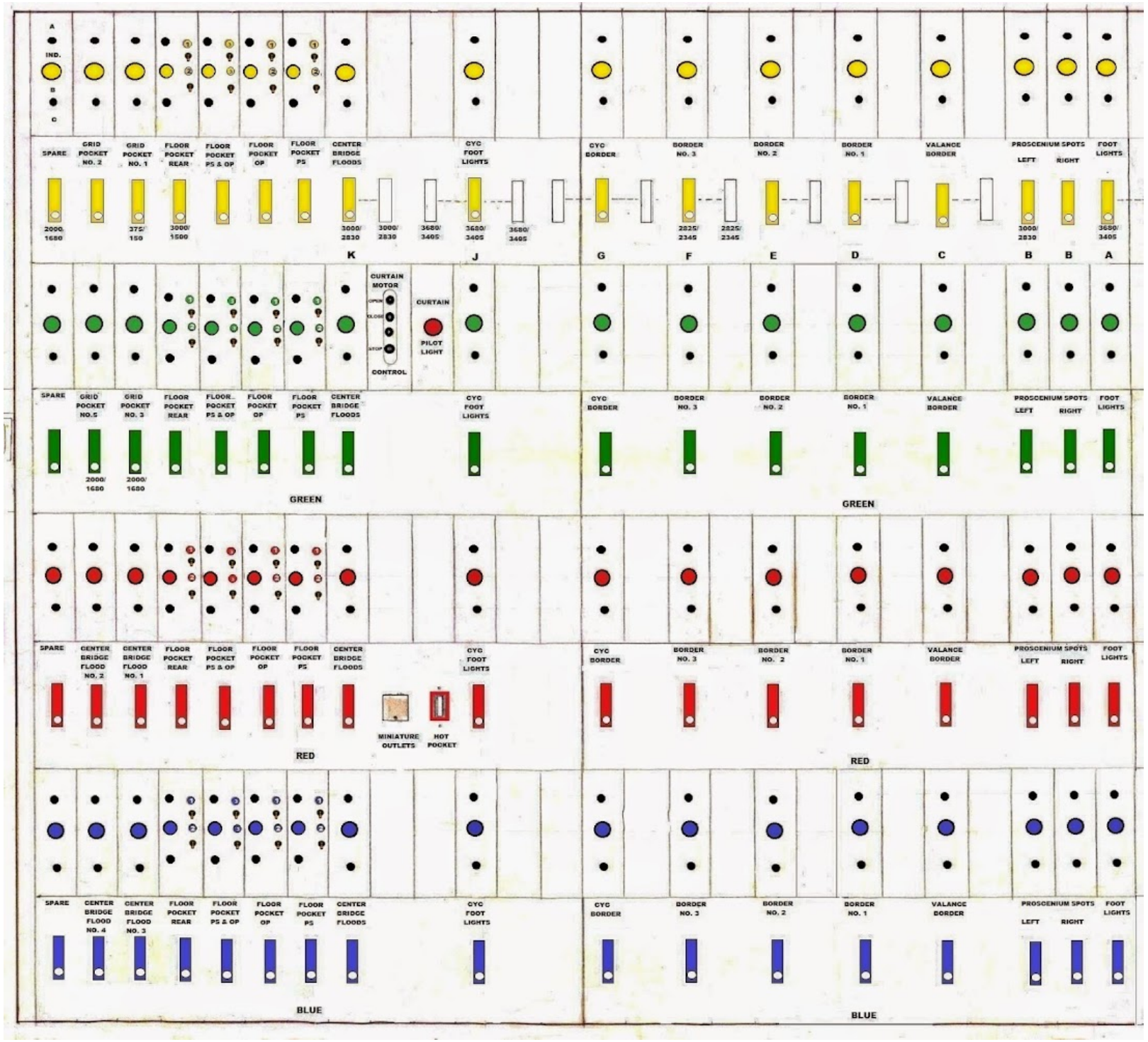
To energize the Switchboard, one turned on the running lights toggle (shown to the right), then inserted the key into the lock switch (shown to the left).



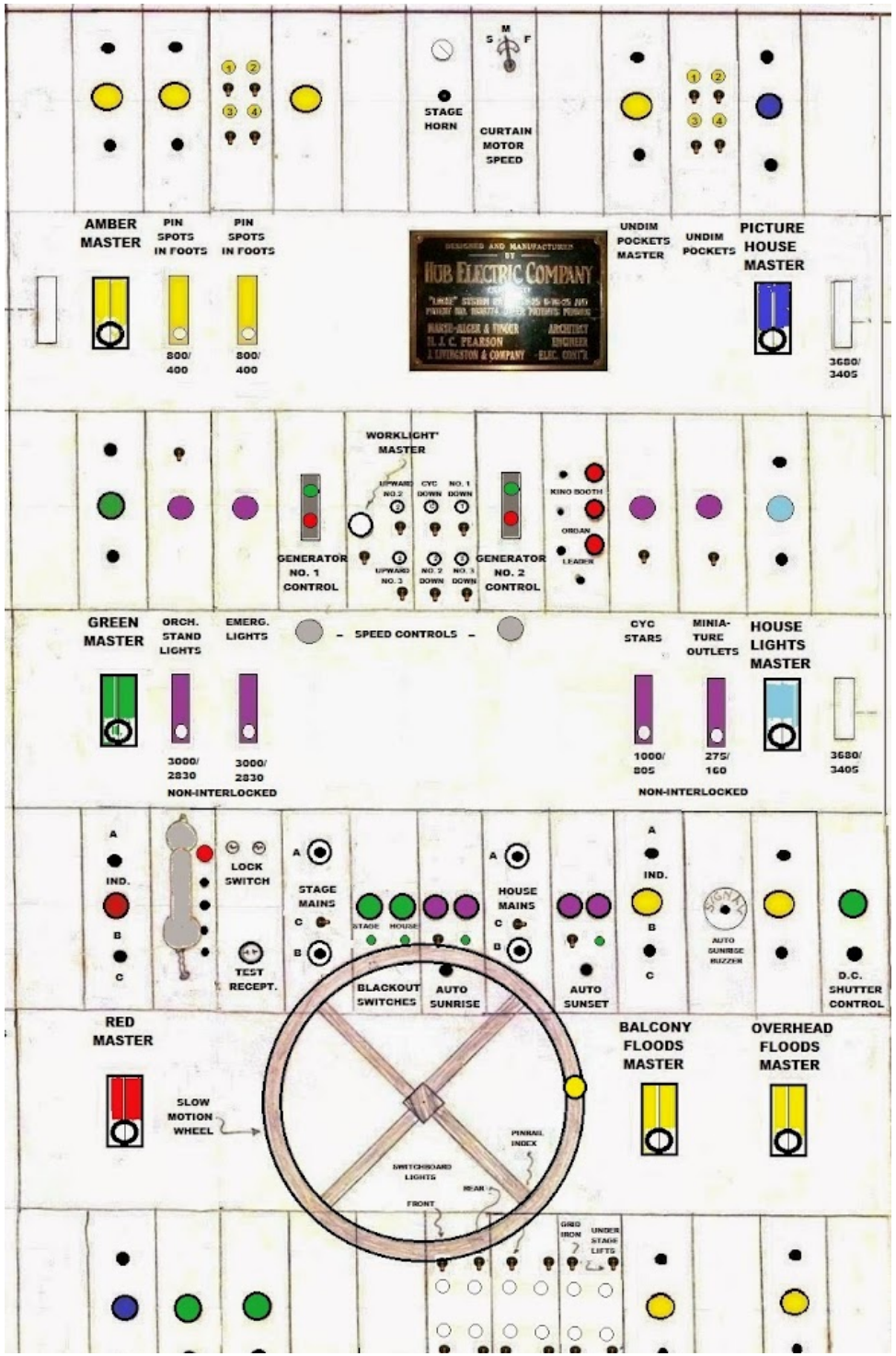
The Switchboard was divided into five sections.



Detail of the left-hand or Stage Section.

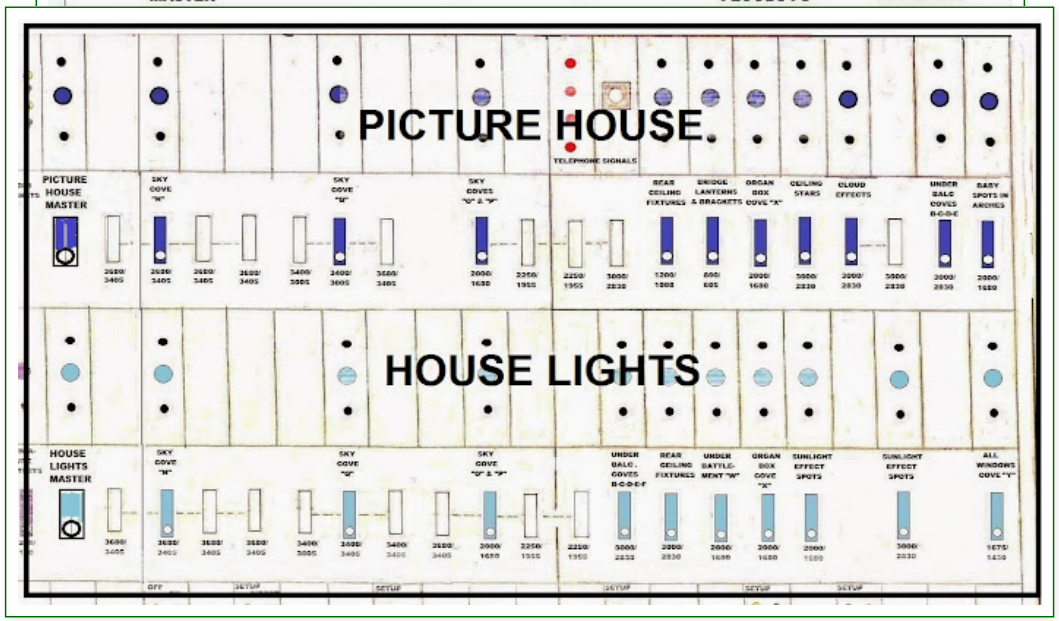

A
IND.
B
C
SPARE
GRID POCKET NO. 2
GRID POCKET NO. 1
FLOOR POCKET REAR
FLOOR POCKET PS & OP
FLOOR POCKET OP
FLOOR POCKET PS
CENTER BRIDGE FLOODS
CYC FOOT LIGHTS
2000/ 1650
375/ 150
3000/ 1500
3000/ 2830
3000/ 2830
3680/ 3405
3680/ 3405
3680/ 3405
K
J
CYC BORDER
BORDER NO. 3
BORDER NO. 2
BORDER NO. 1
VALANCE BORDER
PROSCENIUM SPOTS
LEFT
RIGHT
FOOT LIGHTS
2825/ 2345
2825/ 2345
3000/ 2830
3680/ 3405
G
F
E
D
C
B
B
A
CURTAIN MOTOR
OPEN
CLOSE
STOP
CONTROL
CURTAIN
PILOT LIGHT
GREEN
GREEN
RED
RED
BLUE
BLUE
MINIATURE OUTLETS
HOT POCKET

Detail of the center or Control Section

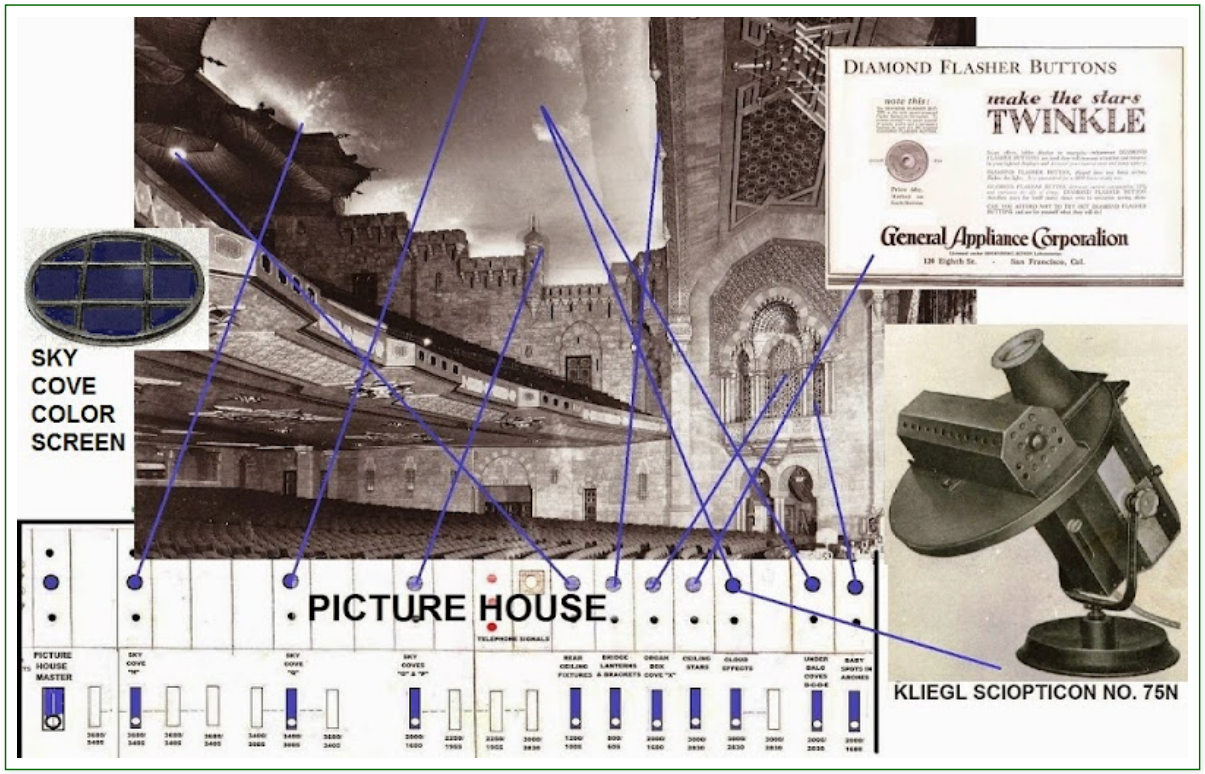

STAGE HORN
CURTAIN MOTOR SPEED
AMBER MASTER
PIN SPOTS IN FOOTS
PIN SPOTS IN FOOTS
800/ 400
800/ 400
HUB ELECTRIC COMPANY
UNDIM POCKETS MASTER
UNDIM POCKETS
PICTURE HOUSE MASTER
3680/ 3405
WORKLIGHT MASTER
GENERATOR NO. 1 CONTROL
GENERATOR NO. 2 CONTROL
KINO BOOTH
ORGAN LEADER
GREEN MASTER
ORCH. STAND LIGHTS
EMERG. LIGHTS
SPEED CONTROLS
CYC STARS
MINIATURE OUTLETS
HOUSE LIGHTS MASTER
3000/ 2830
3000/ 2830
NON-INTERLOCKED
1000/ 805
275/ 160
3680/ 3405
NON-INTERLOCKED
LOCK SWITCH
TEST RECEPT.
STAGE MAINS
HOUSE MAINS
BLACKOUT SWITCHES
AUTO SUNRISE
AUTO SUNSET
AUTO SUNRISE BUZZER
D.C. SHUTTER CONTROL
RED MASTER
SLOW MOTION WHEEL
BALCONY FLOODS MASTER
OVERHEAD FLOODS MASTER
SWITCHBOARD LIGHTS
PINRAIL INDEX
FRONT
REAR
GRID IRON
UNDER STAGE LIFTS

On the top right-hand sectior

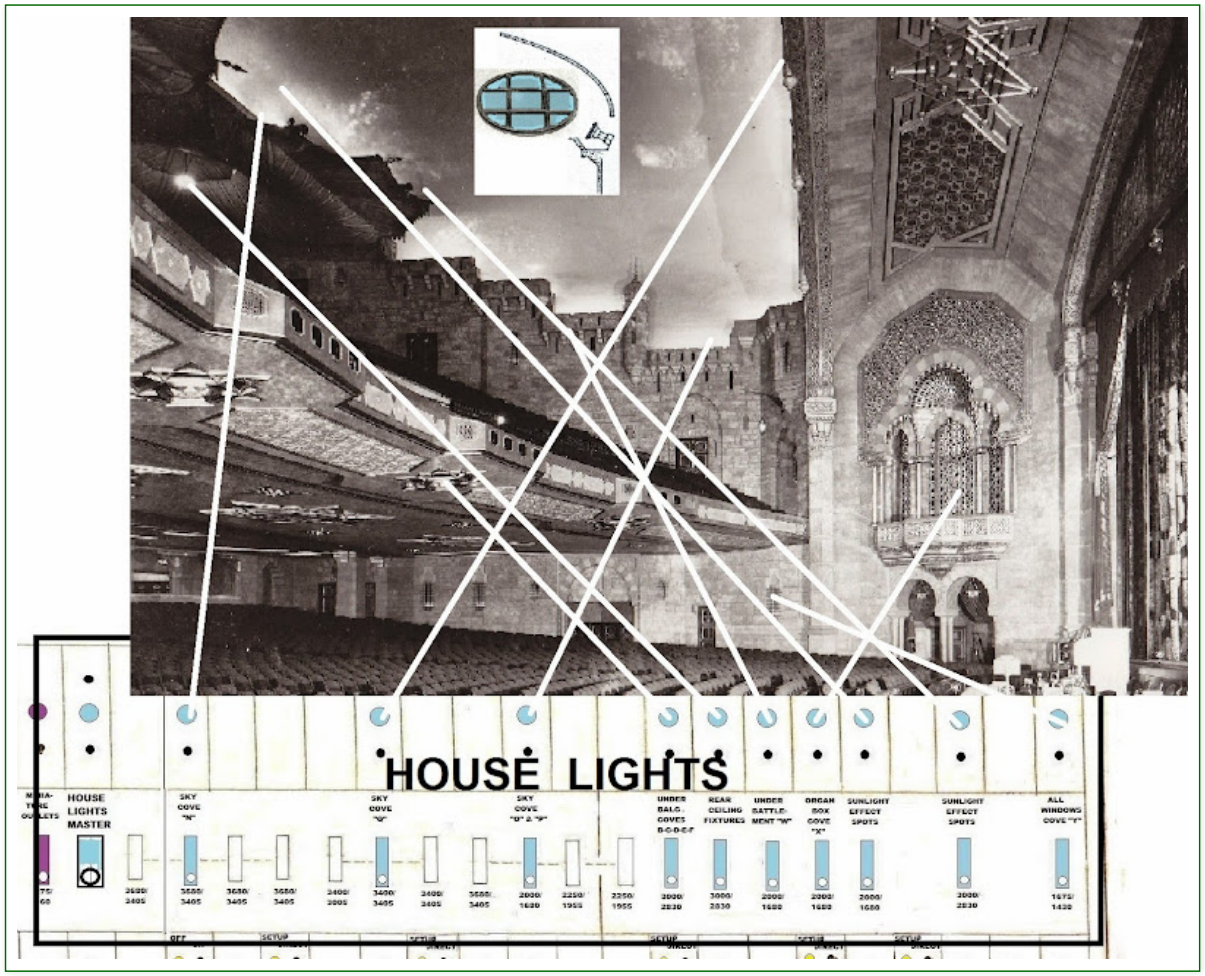
lights which remain lit when the house is occupied) and H



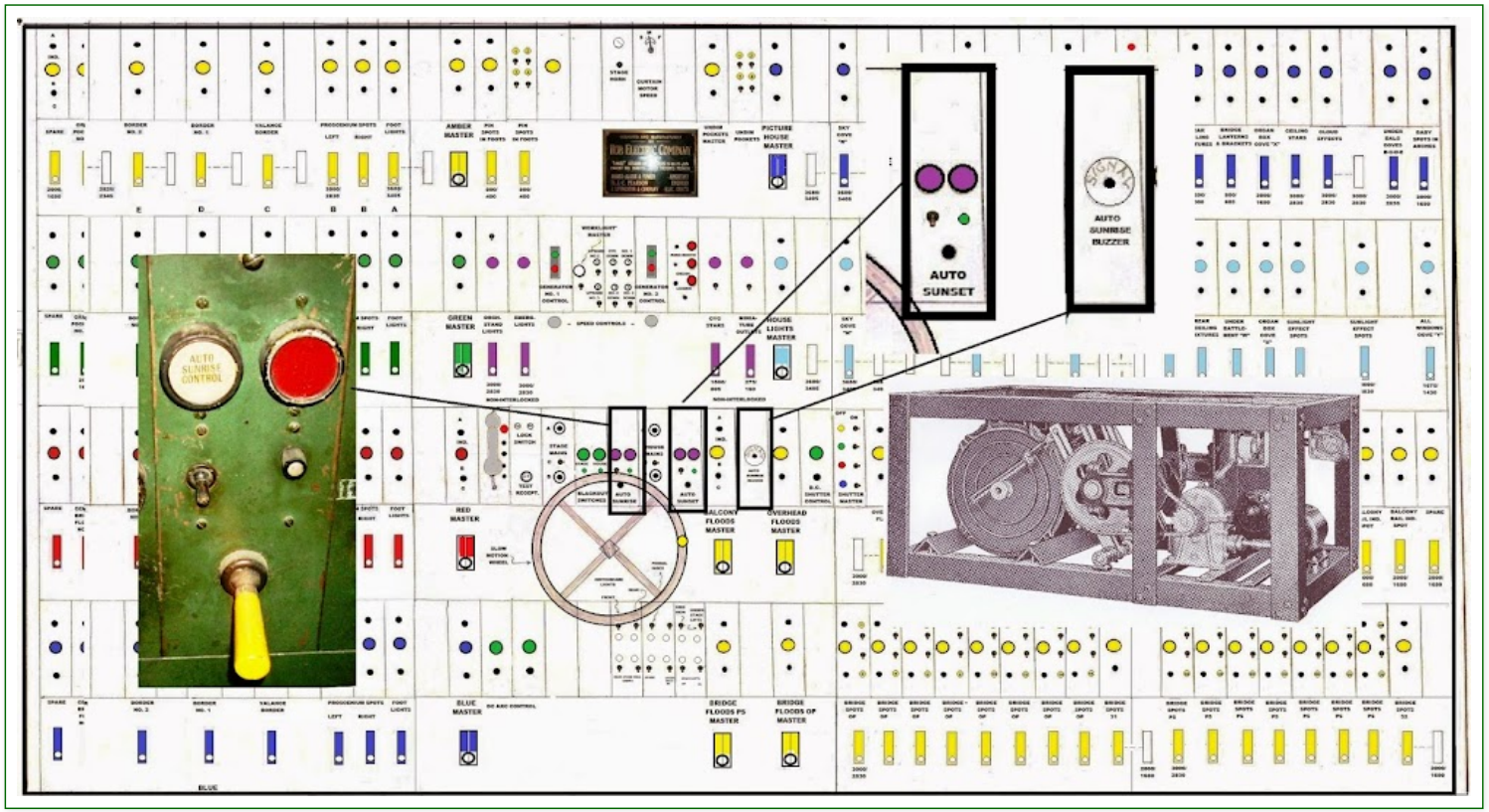
Picture House included the deep blue circuit of the sky coves, blue circuits in the balcony soffit and organ boxes and a portion of the rear ceiling (gallery) fixtures. Stars were simulated by one hundred and twelve 25 watt general service lamps with reflectors placed on the top side of the plaster sky, beaming through pin holes in the plaster and magnified by prisms The clouds were projected onto the sky by two Kliegl effect machines containing "moving fleecy cloud" discs which rotated at an imperceptible pace.



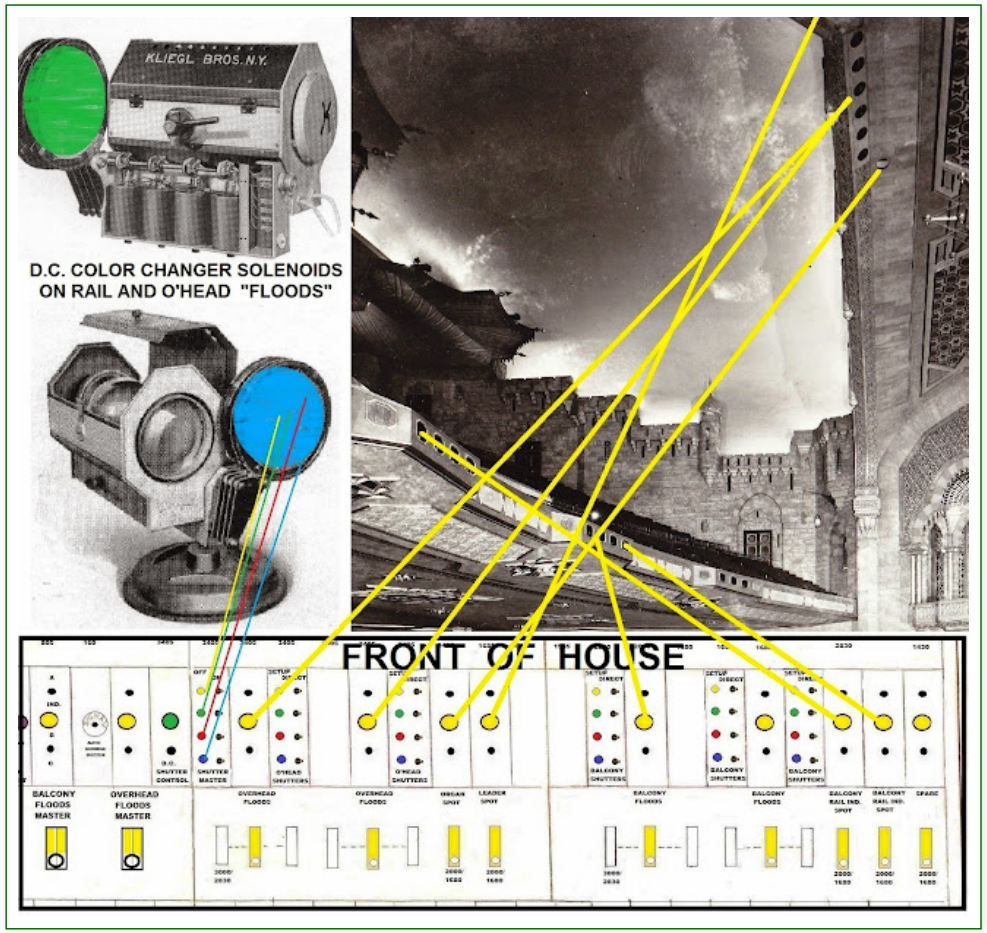
House Lights included the light blue circuit of the sky coves, amber and red in the organ boxes, and a glow from the various windows set into the side walls.



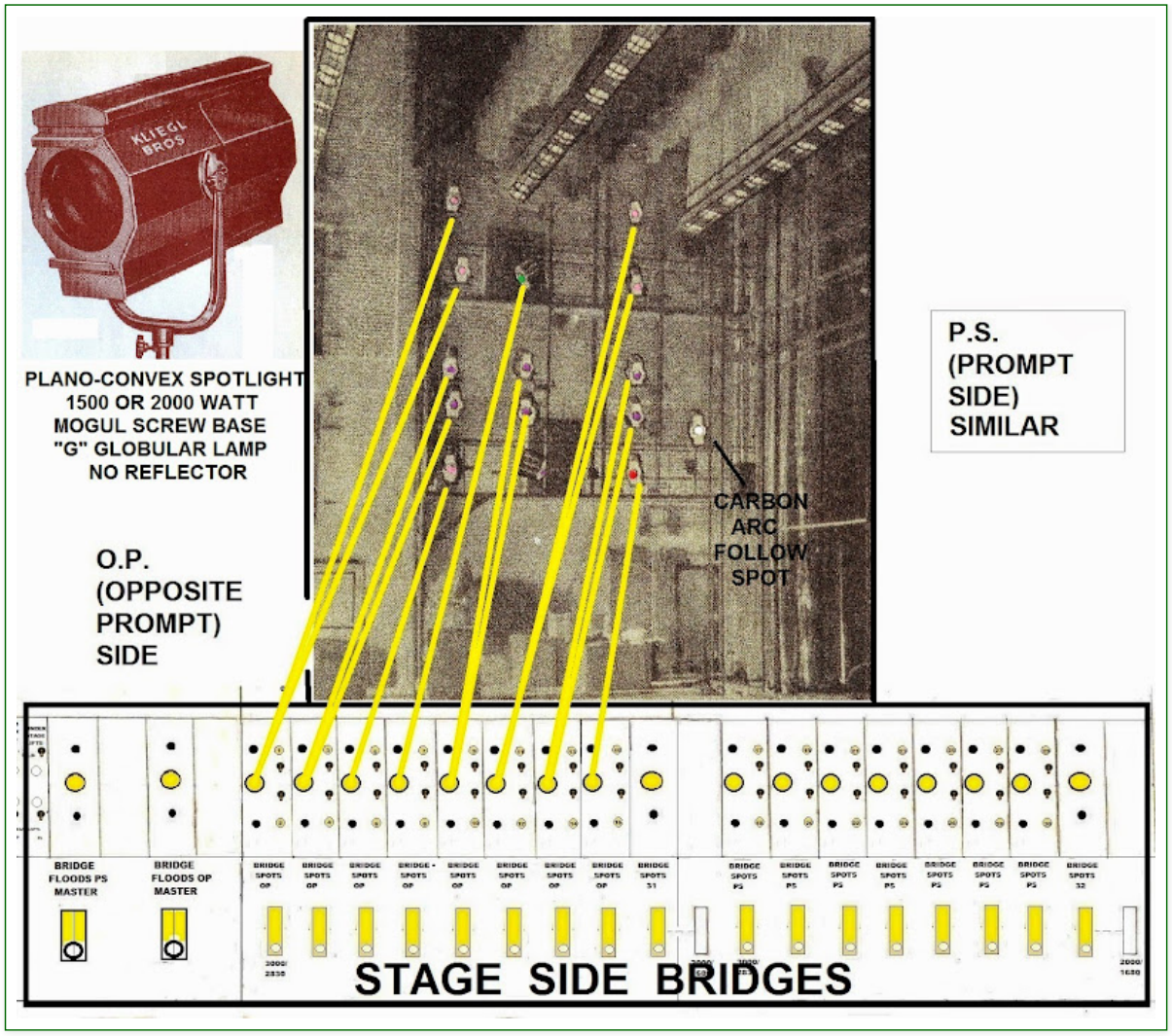
Unique to the Fox was the auto-sunrise and sunset effect, achieved with dimmer plates operated by a motorized cam shaft which would sequence spotlights aimed at the sky into a series of cross-fades. Thus the sun would rise over the balcony (east) and appear to travel to noon position (auto-sunrise); hold for a given period; then set over the stage (auto-sunset). The Switchboard operator, cued by automatic electric buzzer, would fade the House Light dimmers up or down in synchronization with the motorized sunlight effect spots. The motorized dimmer assembly was located in the Power Room beneath the Switchboard.



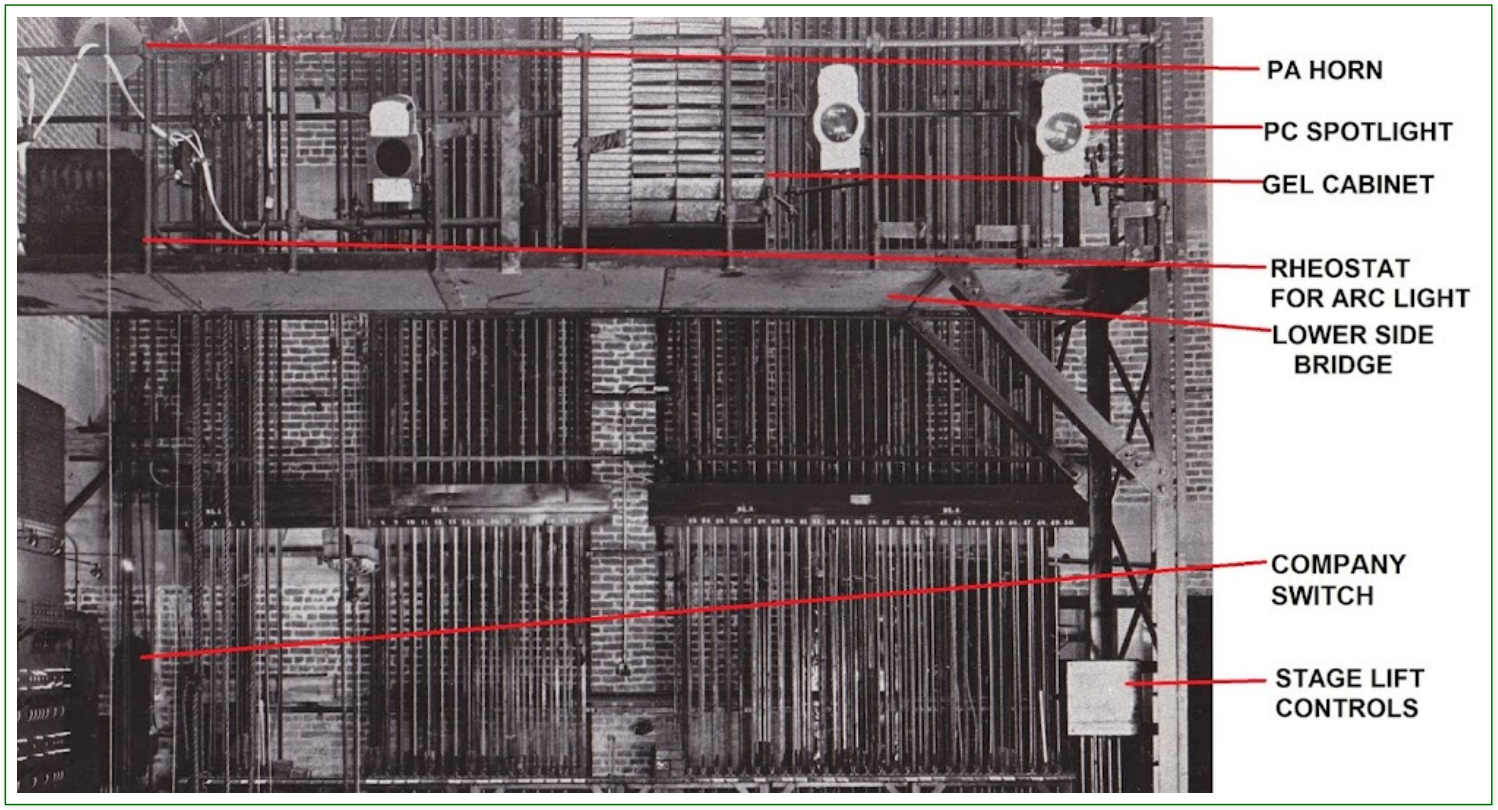
Overhead and balcony "floods" were actually plano-convex (PC) spotlights, twelve 1500 watt units in each position ganged in groups of six, as well as four 2K specials for organist and band leader. Gel color changes were preset and controlled from the board. A five prong pin plug connected the color changer.



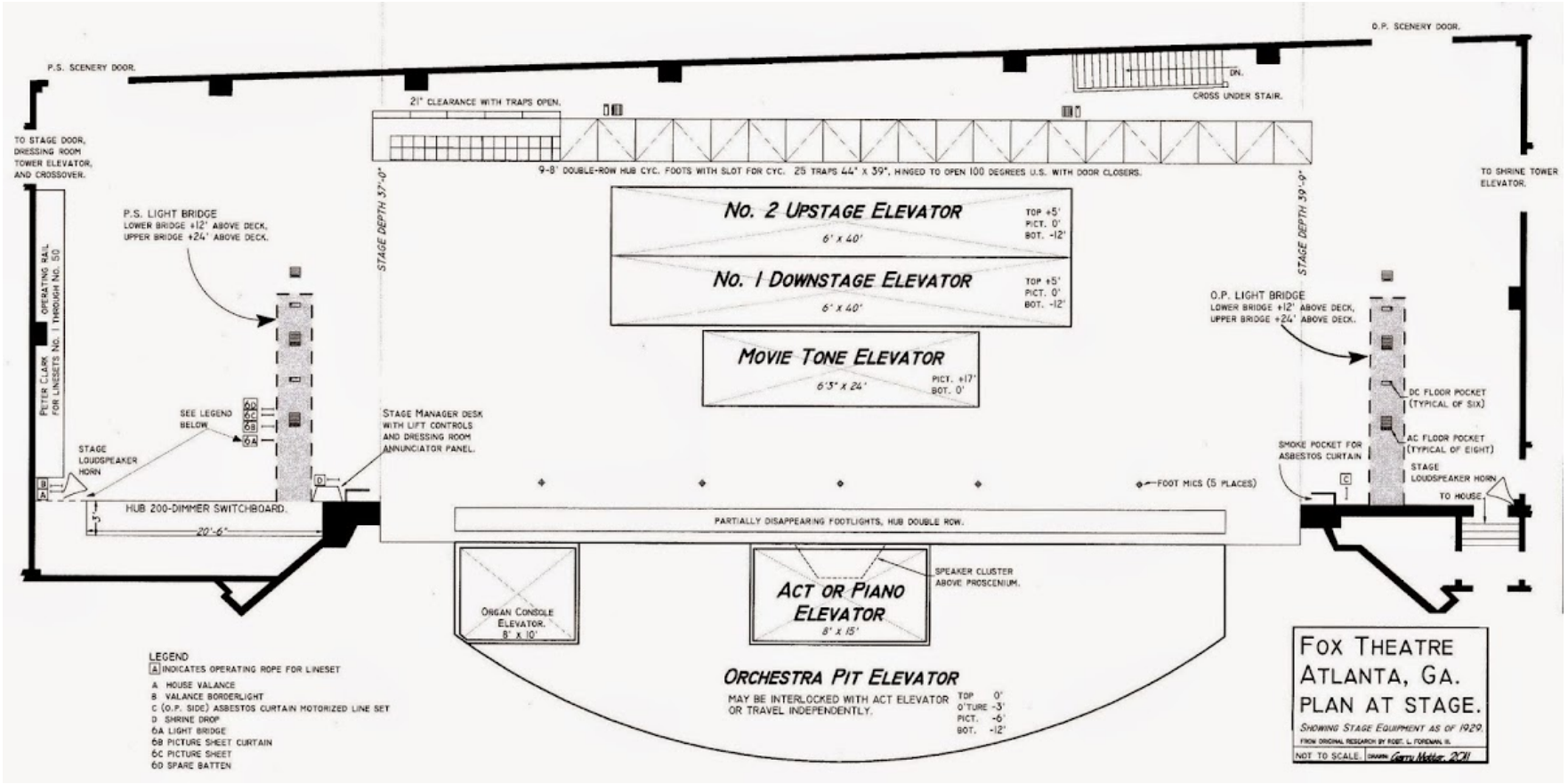
The Stage Side Bridge positions consisted of permanent platforms at 12 and 24 feet, bringing the high outside position to just shy of thirty-six. Each Bridge was circuited for 16-1500 watt PC spots and one 2K circuit, dedicated to projecting clouds or other effects onto the cyc. Two circuits per side were provided for DC follow spots.



The lower platform of the PS (prompt side) Side Bridge.

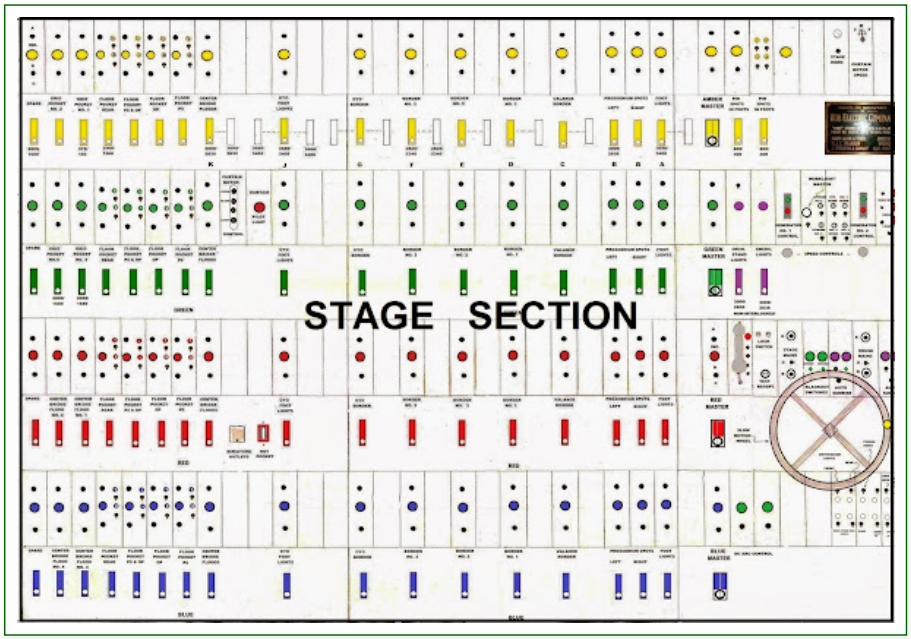


This plan shows the locations of the Switchboard, Side Bridges, Cyclorama Footlights and Floor Pockets.

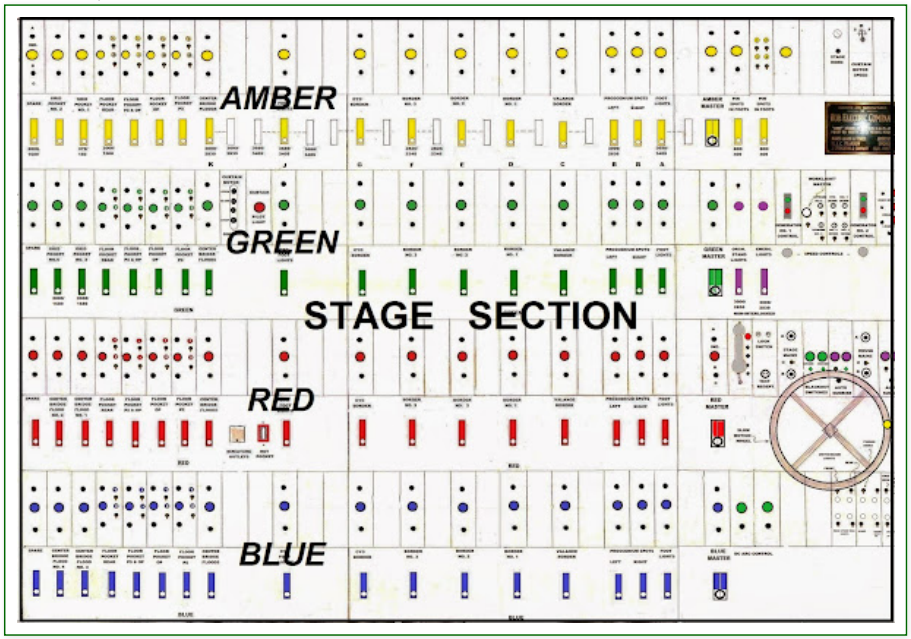

O.P. SCENERY DOOR.
P.S. SCENERY DOOR.
DN.
CROSS UNDER STAIR.
21" CLEARANCE WITH TRAPS OPEN.
TO STAGE DOOR, DRESSING ROOM TOWER ELEVATOR, AND CROSSOVER.
9-8" DOUBLE-ROW HUB CYC. FOOTS WITH SLOT FOR CYC. 25 TRAPS 44" X 39", HINGED TO OPEN 100 DEGREES U.S. WITH DOOR CLOSERS.
TO SHRINE TOWER ELEVATOR.
STAGE DEPTH 57'-0"
STAGE DEPTH 39'-9"
P.S. LIGHT BRIDGE
LOWER BRIDGE +12' ABOVE DECK,
UPPER BRIDGE +24' ABOVE DECK.
OPERATING RAIL FOR LINESETS NO. 1 THROUGH NO. 50
PETER CLARK
No. 2 UPSTAGE ELEVATOR
6' x 40'
TOP +5'
PICT. 0'
BOT. -12'
No. 1 DOWNSTAGE ELEVATOR
6' x 40'
TOP +5'
PICT. 0'
BOT. -12'
MOVIE TONE ELEVATOR
6'5" X 24'
PICT. +17'
BOT. 0'
O.P. LIGHT BRIDGE
LOWER BRIDGE +12' ABOVE DECK,
UPPER BRIDGE +24' ABOVE DECK.
DC FLOOR POCKET (TYPICAL OF SIX)
AC FLOOR POCKET (TYPICAL OF EIGHT)
SEE LEGEND BELOW
STAGE LOUDSPEAKER HORN
STAGE MANAGER DESK WITH LIFT CONTROLS AND DRESSING ROOM ANNUNCIATOR PANEL.
SMOKE POCKET FOR ASBESTOS CURTAIN
STAGE LOUDSPEAKER HORN
TO HOUSE.
FOOT MICS (5 PLACES)
HUB 200-DIMMER SWITCHBOARD.
20'-6"
PARTIALLY DISAPPEARING FOOTLIGHTS, HUB DOUBLE ROW.
ORGAN CONSOLE ELEVATOR. 8' x 10'
ACT OR PIANO ELEVATOR
8' x 15'
SPEAKER CLUSTER ABOVE PROSCENIUM.
ORCHESTRA PIT ELEVATOR
MAY BE INTERLOCKED WITH ACT ELEVATOR OR TRAVEL INDEPENDENTLY.
TOP 0'
O'TURE -3'
PICT. -6'
BOT. -12'
LEGEND
A INDICATES OPERATING ROPE FOR LINESET
A HOUSE VALANCE
B VALANCE BORDERLIGHT
C (O.P. SIDE) ASBESTOS CURTAIN MOTORIZED LINE SET
D SHRINE DROP
6A LIGHT BRIDGE
6B PICTURE SHEET CURTAIN
6C PICTURE SHEET
6D SPARE BATTEN
FOX THEATRE
ATLANTA, GA.
PLAN AT STAGE.
SHOWING STAGE EQUIPMENT AS OF 1929.
FROM ORIGINAL RESEARCH BY ROBT. L. FOREMAN, III.
NOT TO SCALE
DRAWN Garry Motter 2021

Drawing by Garry Motter

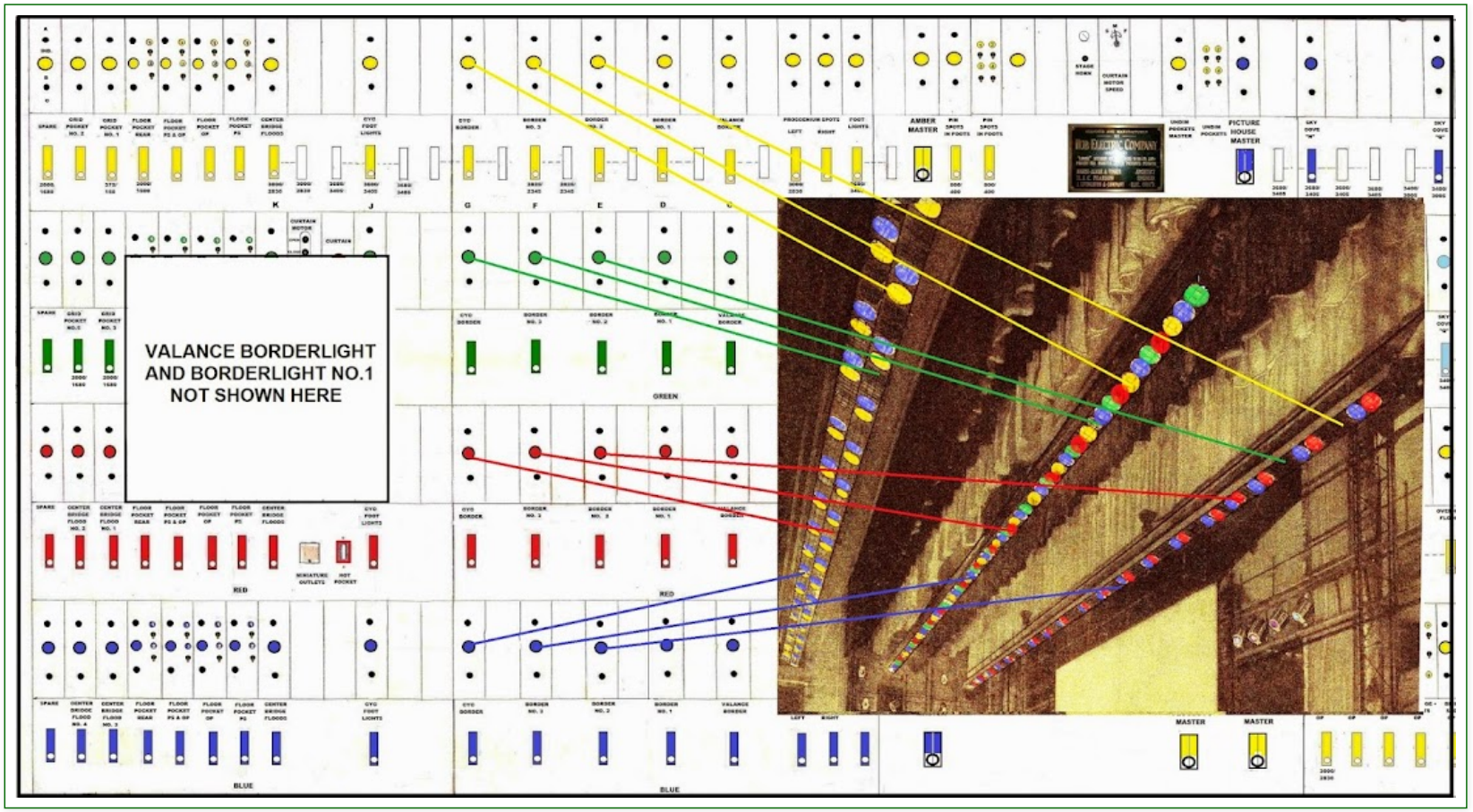
The left hand portion of the Switchboard contained the stage section



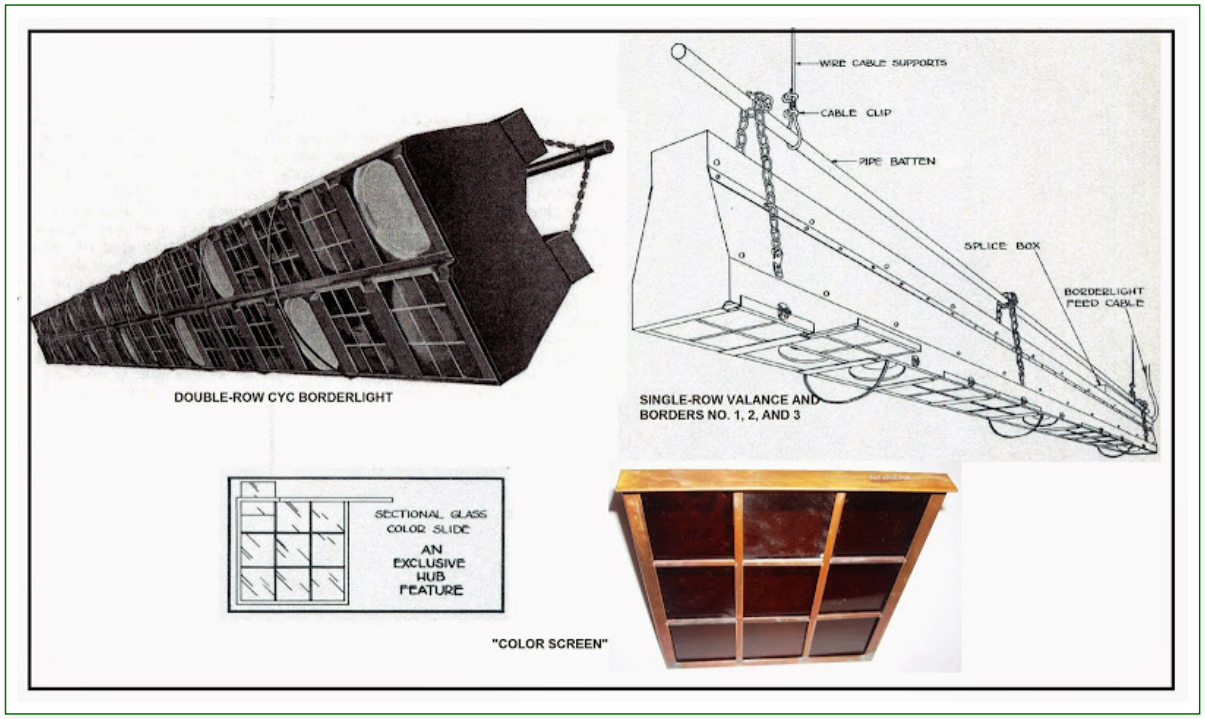
which was divided into four color banks, a mark of a deluxe house. Most Switchboards of the era were red-white-blue.



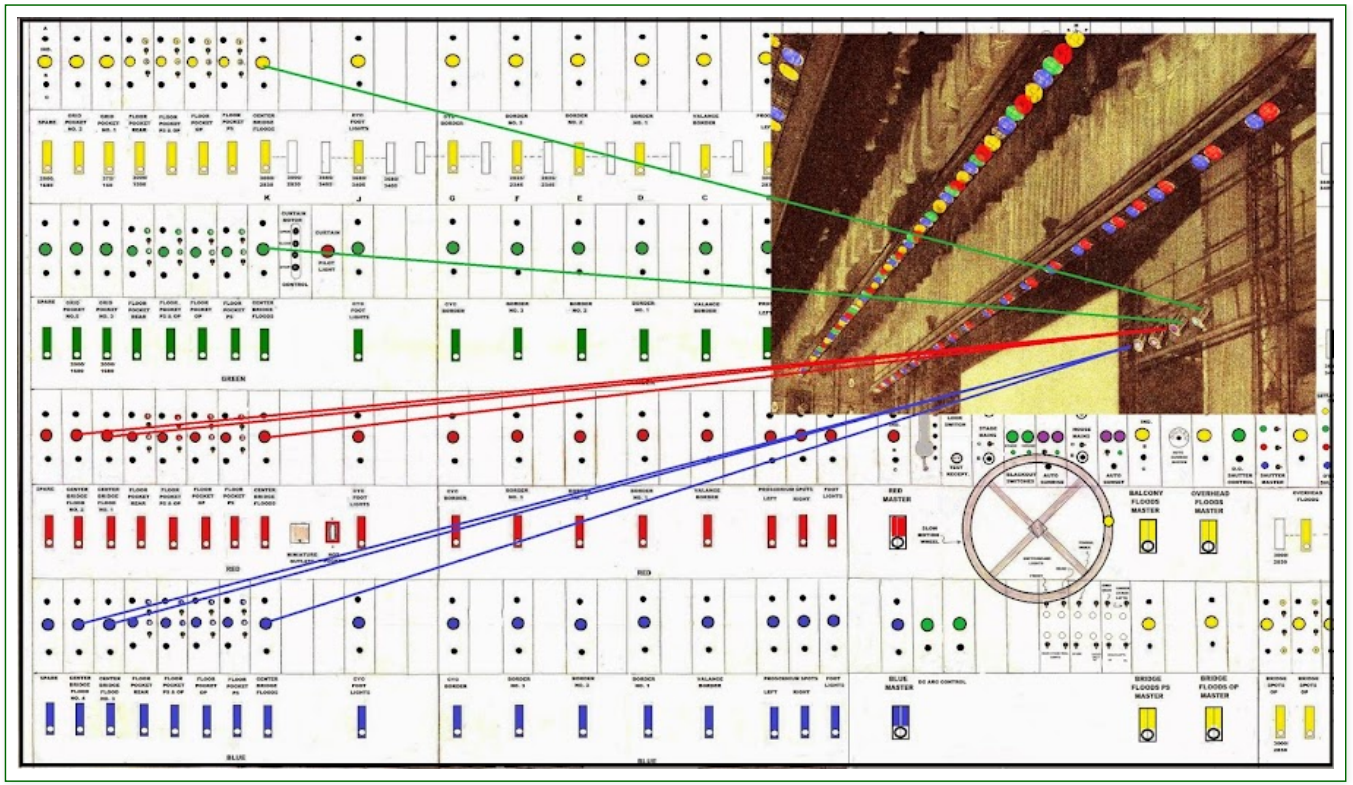
Twenty dimmers and 106 circuits were allotted to the five Borderlights. The Cyc Borderlight was double-row.



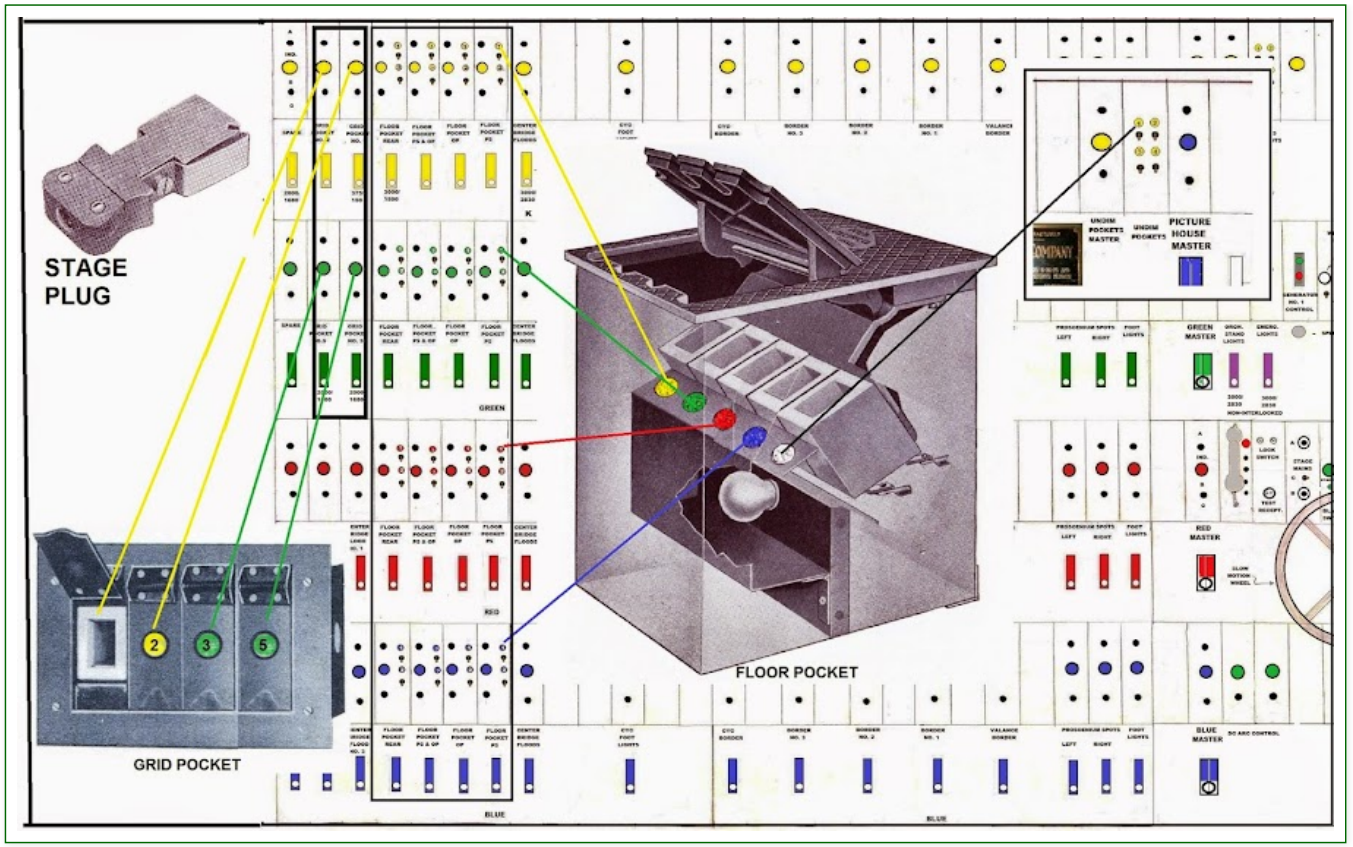
The Valance Borderlight utilized clear 200 watt lamps and was a smaller version of the four others which burned 300 watt lamps. The excellent copper and glass color screens were an exclusive to Hub.



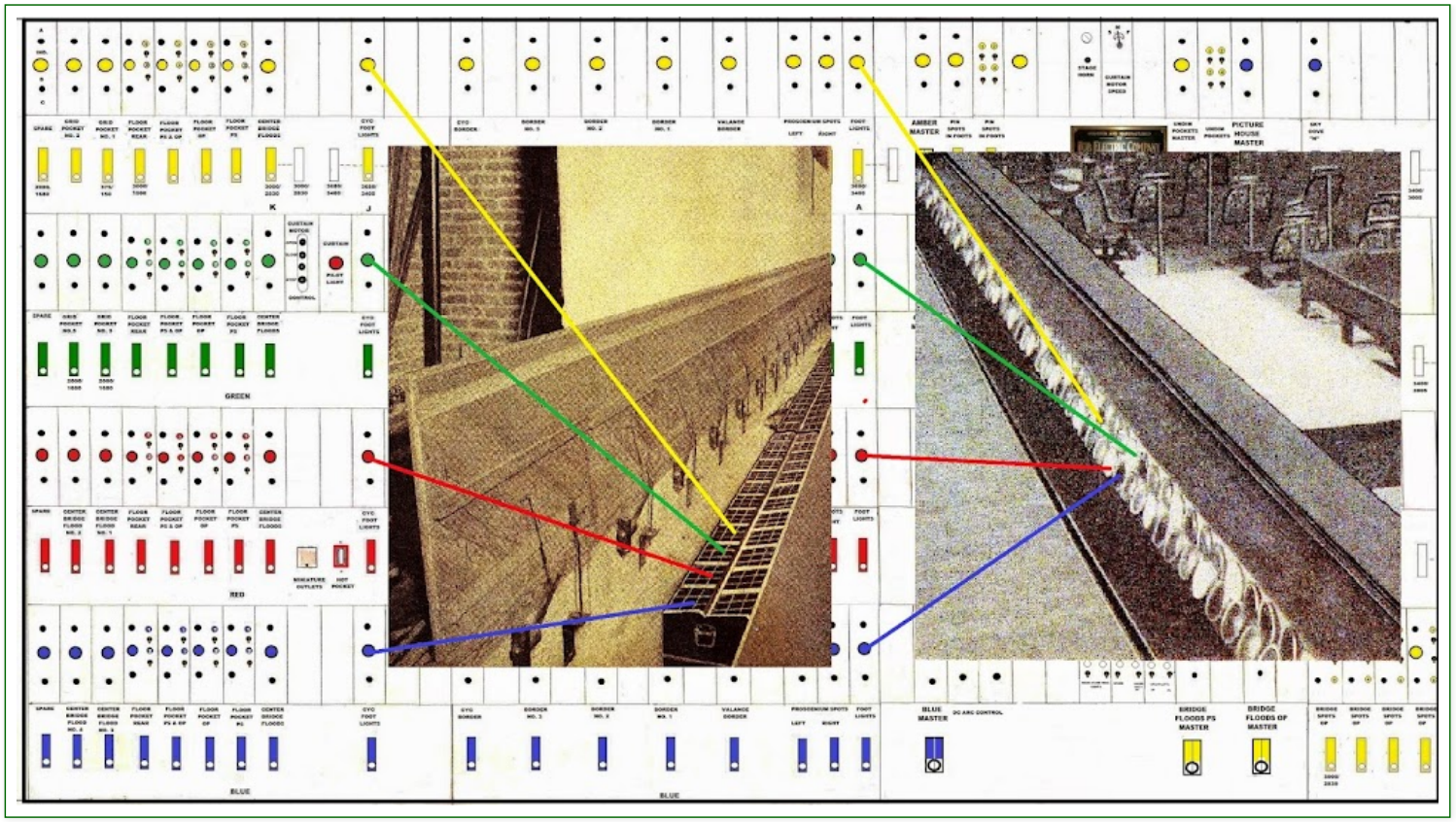
On the upstage edge of Center Light Bridge, two by eighty feet, was the hanging pipe for the PC spots circuited to a connector strip which ran the full width. DC connections for four carbon arcs were equally spaced, and the bridge was flown on a special lineset with a 3-2 ratio so that it could be operated without re-weighting to allow for the load of the four spot operators.



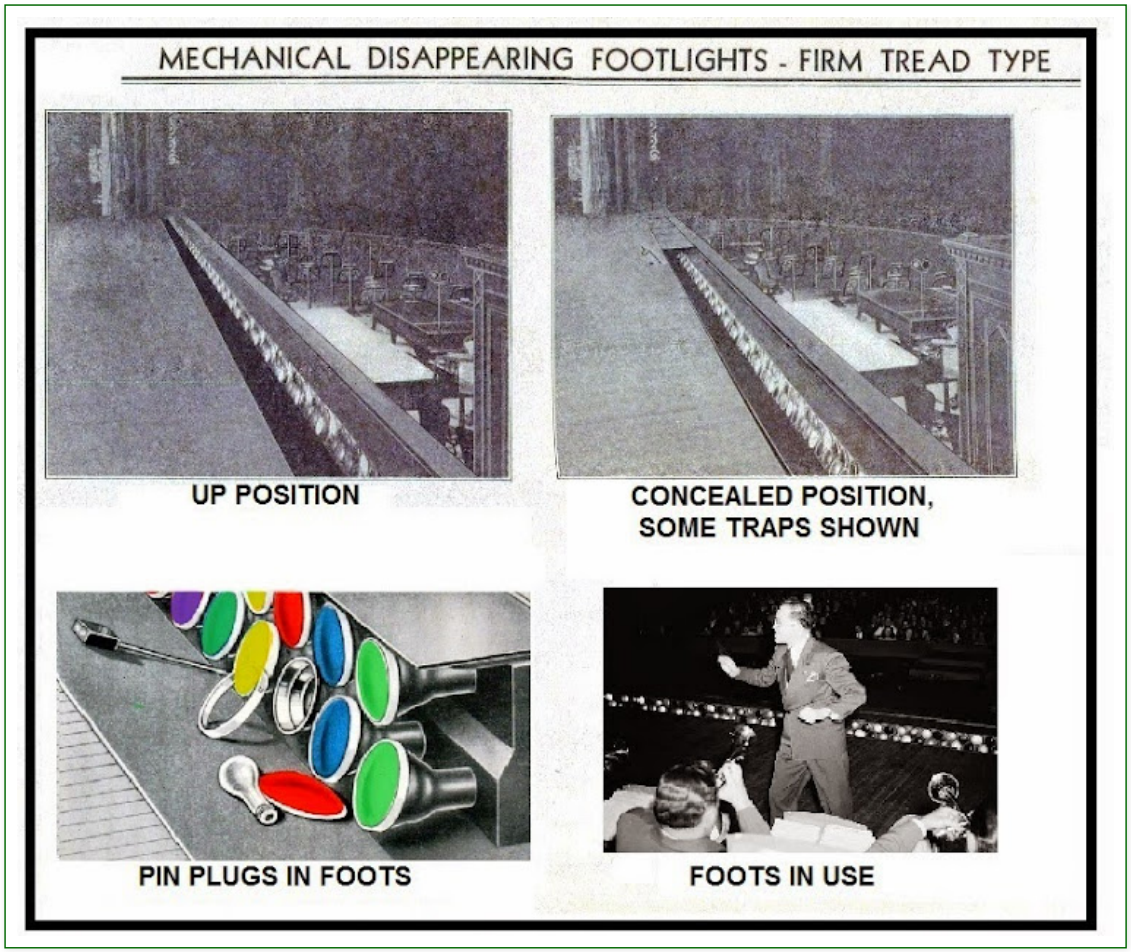
There were eight "Inc" (incandescent) Floor Pockets, two upstage and three each side, four of which were five-gang and included an un-dim circuit. Six DC pockets were also provided. Inc Pockets illuminated when the lid was lifted, and jewels indicated the circuit color. Five gang pockets were a deluxe feature, and lighted pockets were another Hub exclusive.



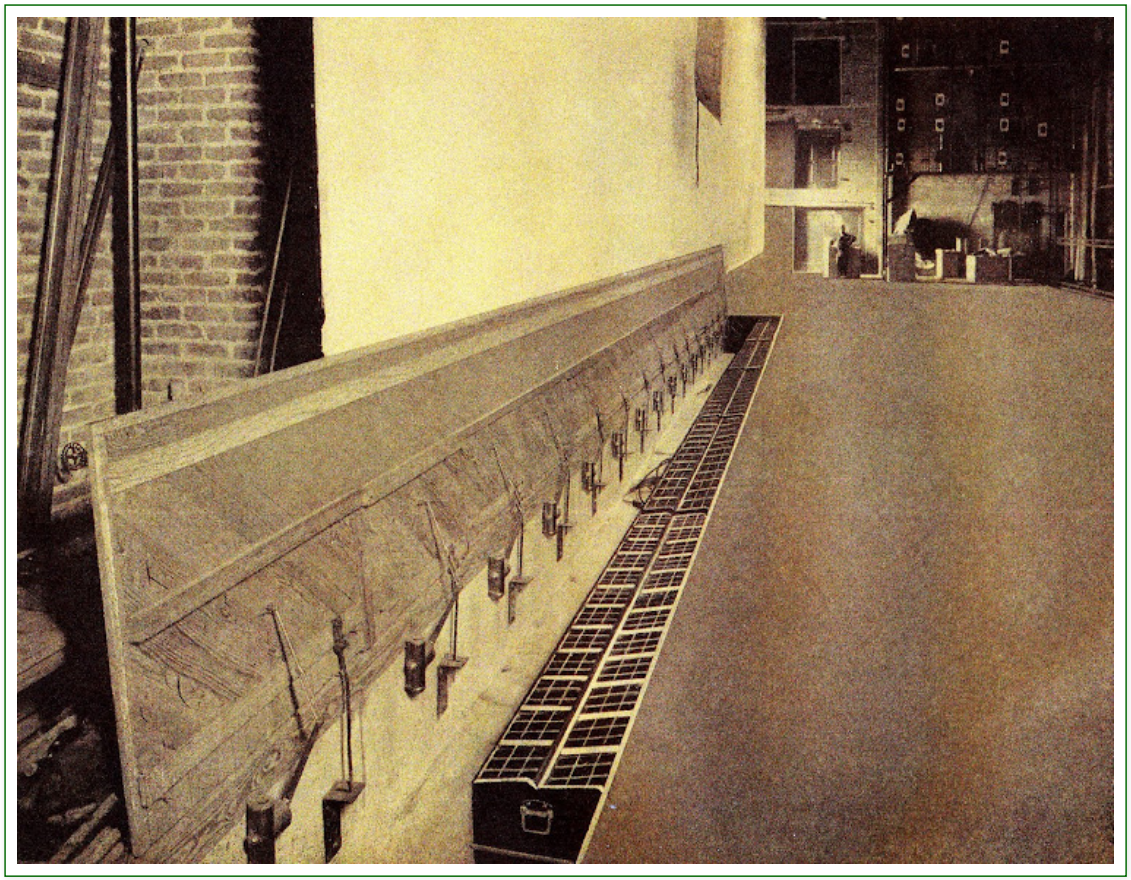
Eight dimmers and 72 circuits controlled the Cyclorama (left) and downstage Footlights (right). Two dimmers (not shown here) controlled the four outlets in the downstage Footlights for pin spots.



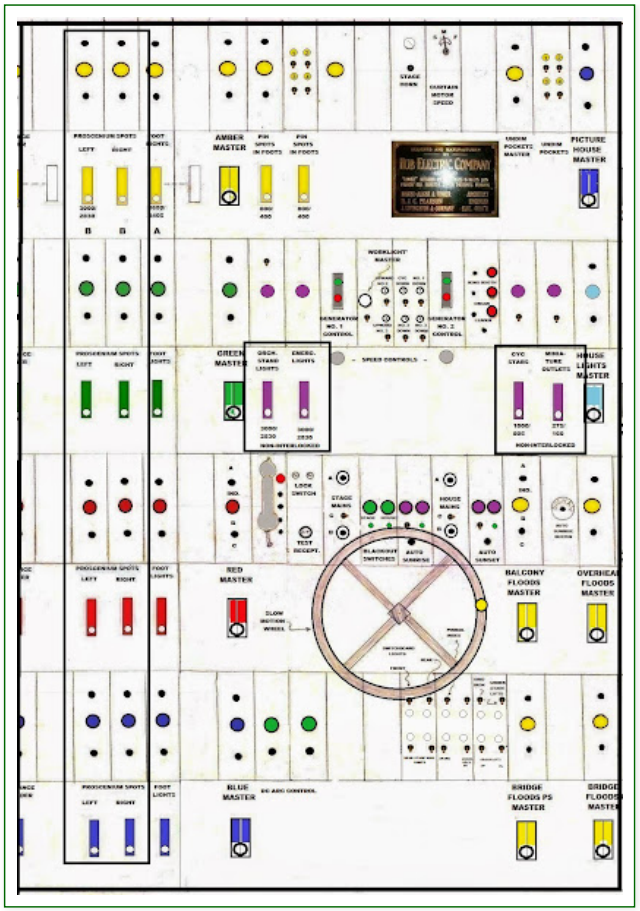
The Footlights could disappear via a hand crank control located on the ceiling of the trap room below.



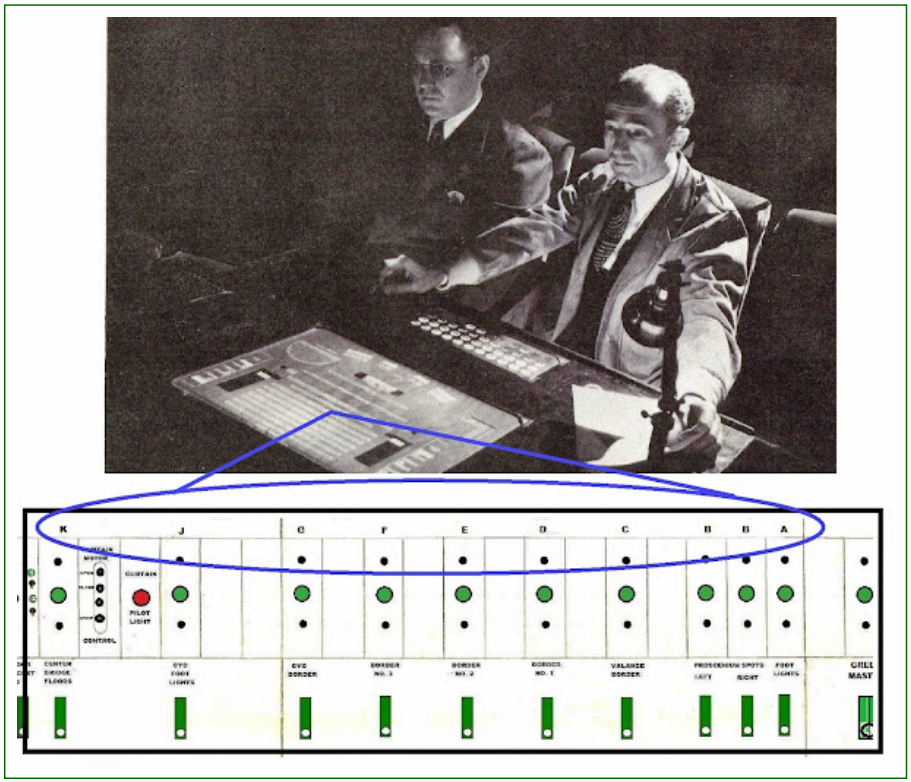
A truly deluxe feature were the Cyclorama Footlights, shown here with only stage right traps open. The traps were damped with door closers, so that a stagehand could run along the upstage and push them to close without the attendant slam. The foots themselves were portables in eight foot sections, and there was a well of sufficient depth on the upstage to allow the 44' x 84' motorized steel-framed Cyclorama to land there, below deck elevation, obviating the necessity of a scenic ground row. The traps could open only to a 100 degree angle which allowed space for an actor crossover. The stagehand pictured at the normally locked entry to the Shrine dressing rooms gives one an idea of the scale of the Side Bridges.



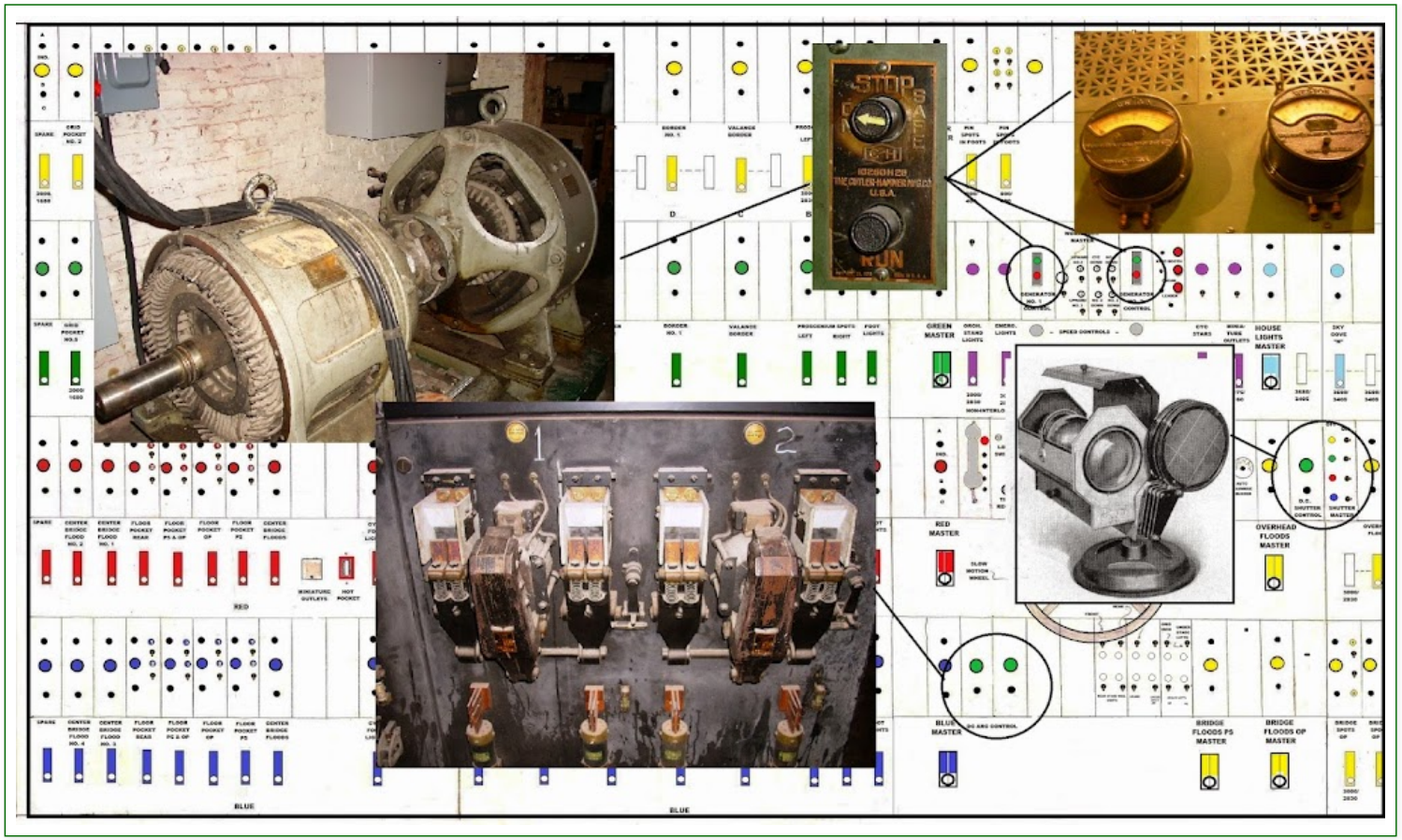
Boxed on the left are dimmers for the Proscenium Spots, a vertical stack of eight PC spots located on the downstage edge of the Side Bridges which gave out a strong sidelight for the very important IN ONE playing position. Four special low wattage dimmers, non-interlocked, were from left to right, Orchestra Stand Lights fed by miniature pin plugs spaced along the pit lift; Emergency Lights, which allowed exit signs to be killed for a total Roxy-esque house blackout; Stars, like those above, located within the hard cyc; and Minature Outlets, a board pocket designated for low wattage stage practicals.



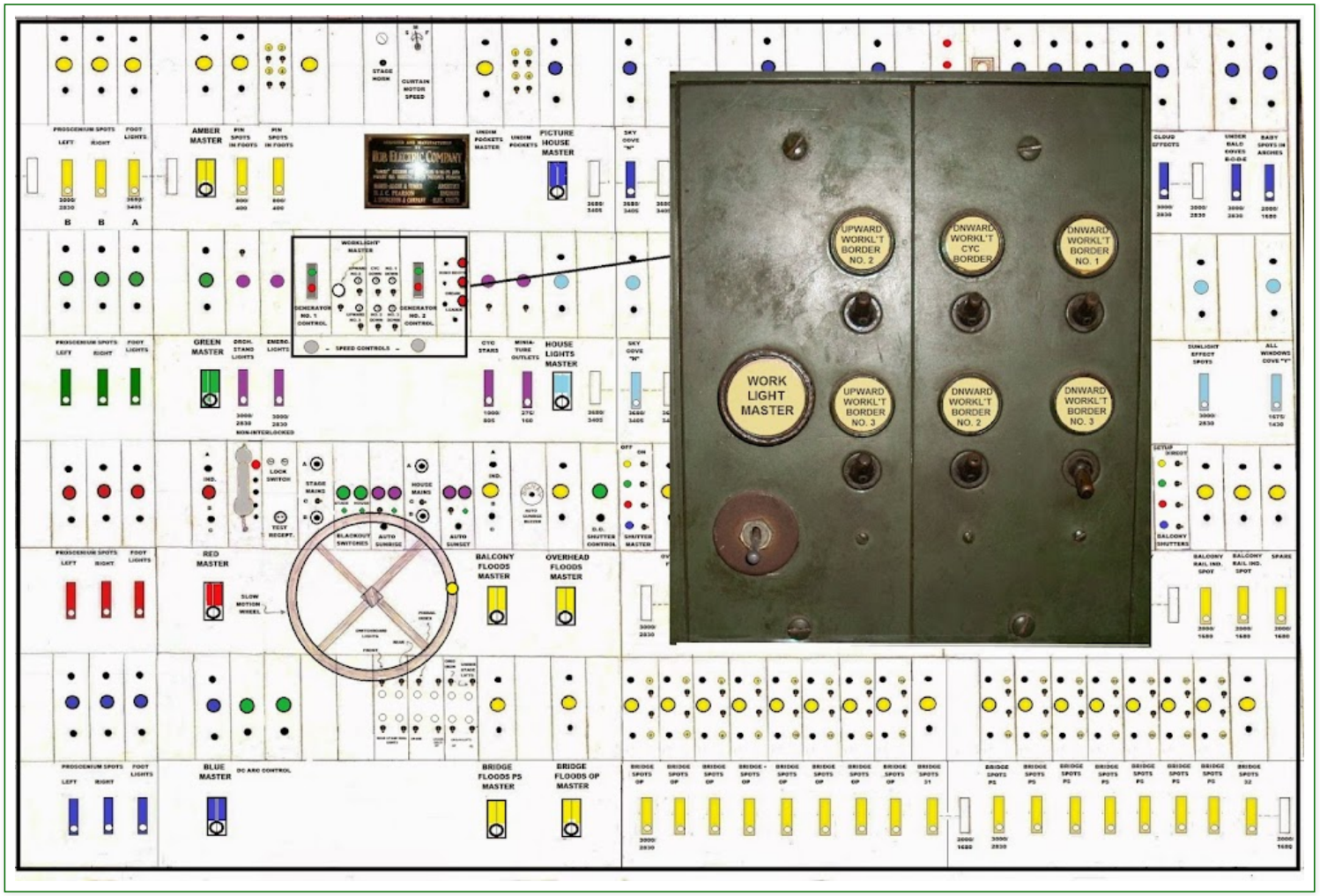
Rehearsal letters stamped within the Pilot Lights for the primary stage circuits corresponded to those on a lighted Fox rehearsal table, so as to facilitate technical rehearsals. Backlit and numbered gel colors were shown closest to the stage director, in this case Leon Leonidoff at the Radio City Music Hall (1932) where Roxy's LD Eugene Braun spent the remainder of his long and distinguished career. The Fox was equipped with a "God Mic" for the director.



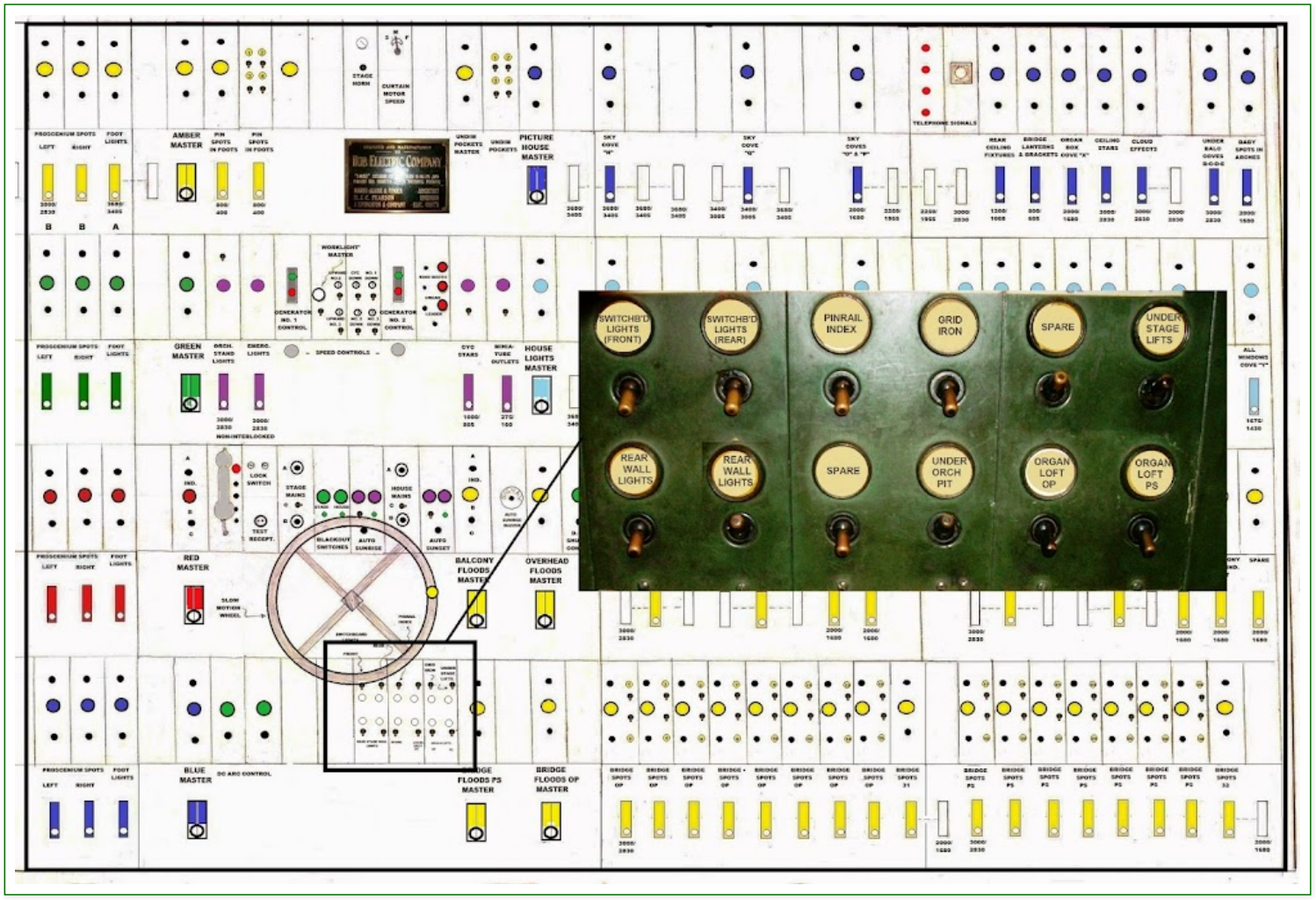
Direct current for the Fox stage carbon arcs was provided by twin Westinghouse 455 DC ampere Motor-Generator sets located beneath the stage and distinct from the booth machines. Left to right, a typical MG set; the contactors which allowed DC lamps to be blacked out in unison with the incandescents; the stop/start controls for each MG; the Voltage and Amperage Meters above the board for each MG, which also provided current for the rail and cove gel change solenoids.



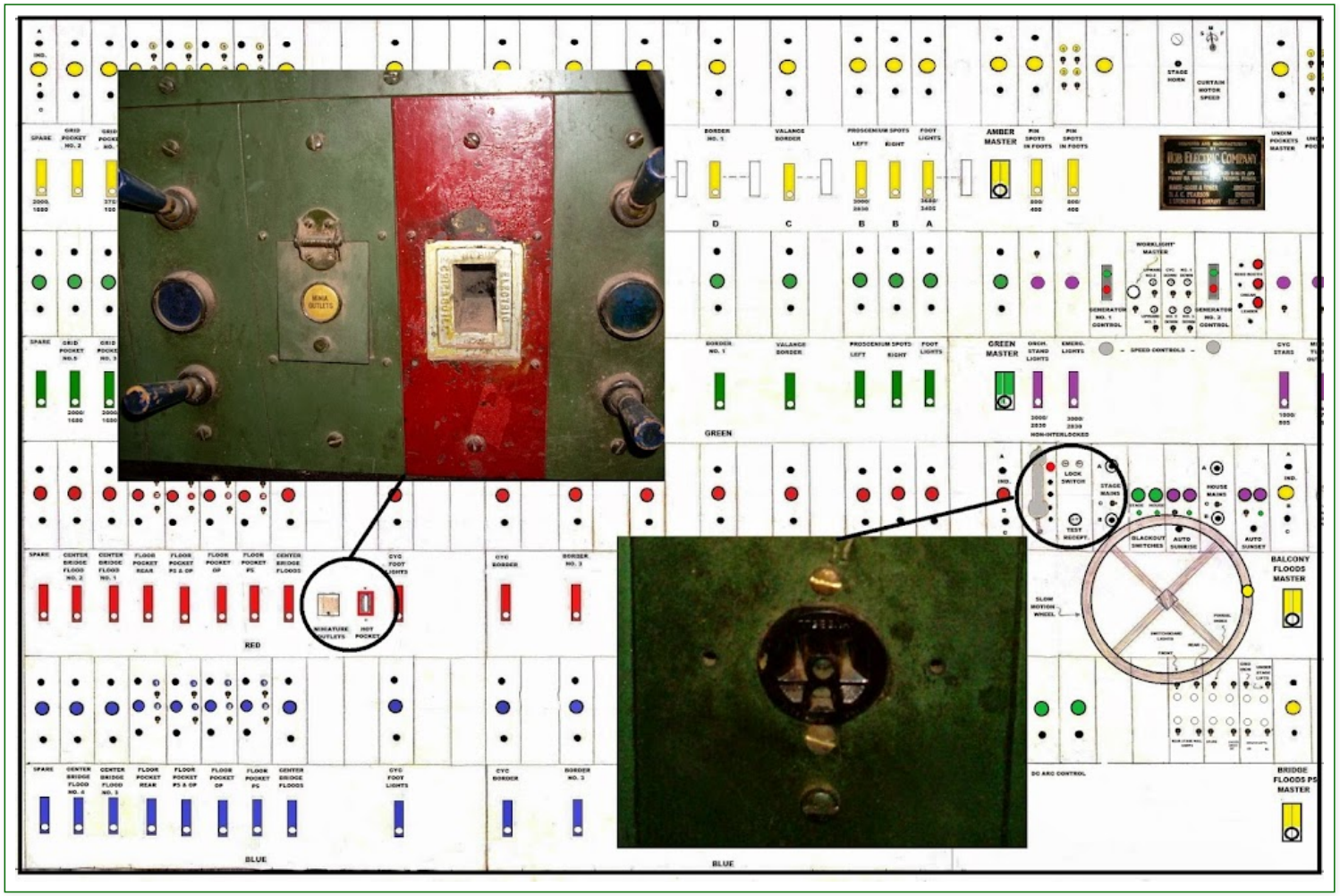
The Worklights were comprised of three Downward lamps equally spaced within each of Borderlights No. 1, 2, 3 and Cyc, and a deluxe feature were the four Upward works located on Borderlights No. 2 and 3 allowing proper lighting within the flies up to the Grid.



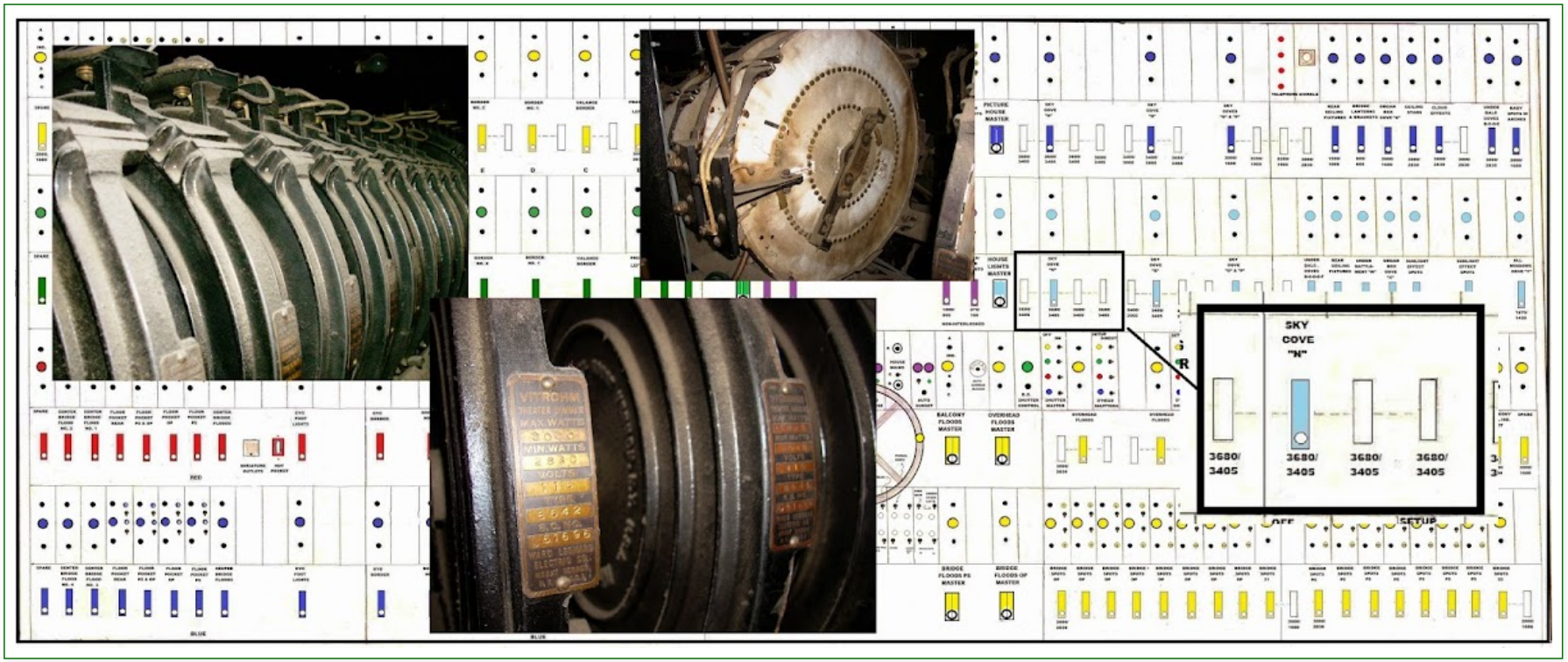
Constant circuits and all branch circuits were fused in a magazine panel (not shown here) located behind the Switchboard. The panel contained 500 Edison plug fuses.



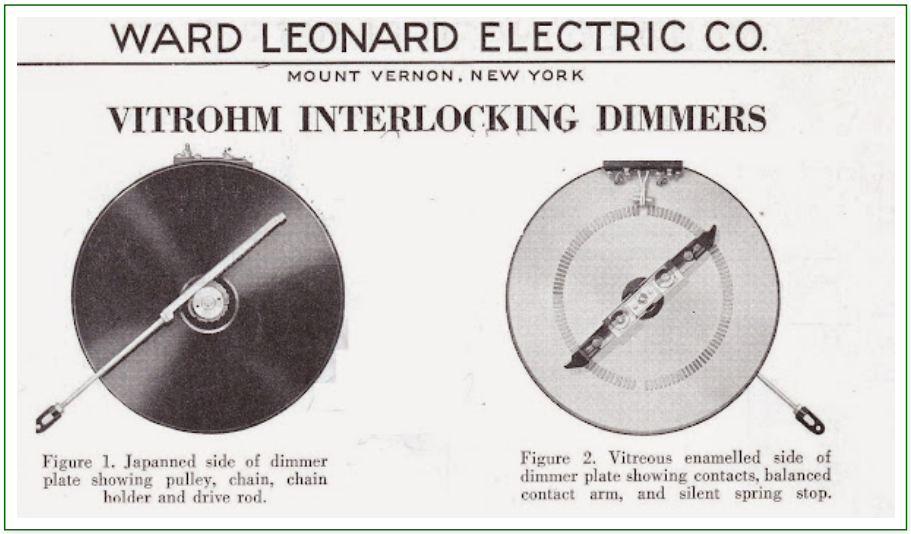
Two Board outlets were non switched, left the Hot Pocket and center the Test Receptacle. The cover for the female miniature pin connector "Miniature Outlets" is shown to the left of the Hot Pocket.



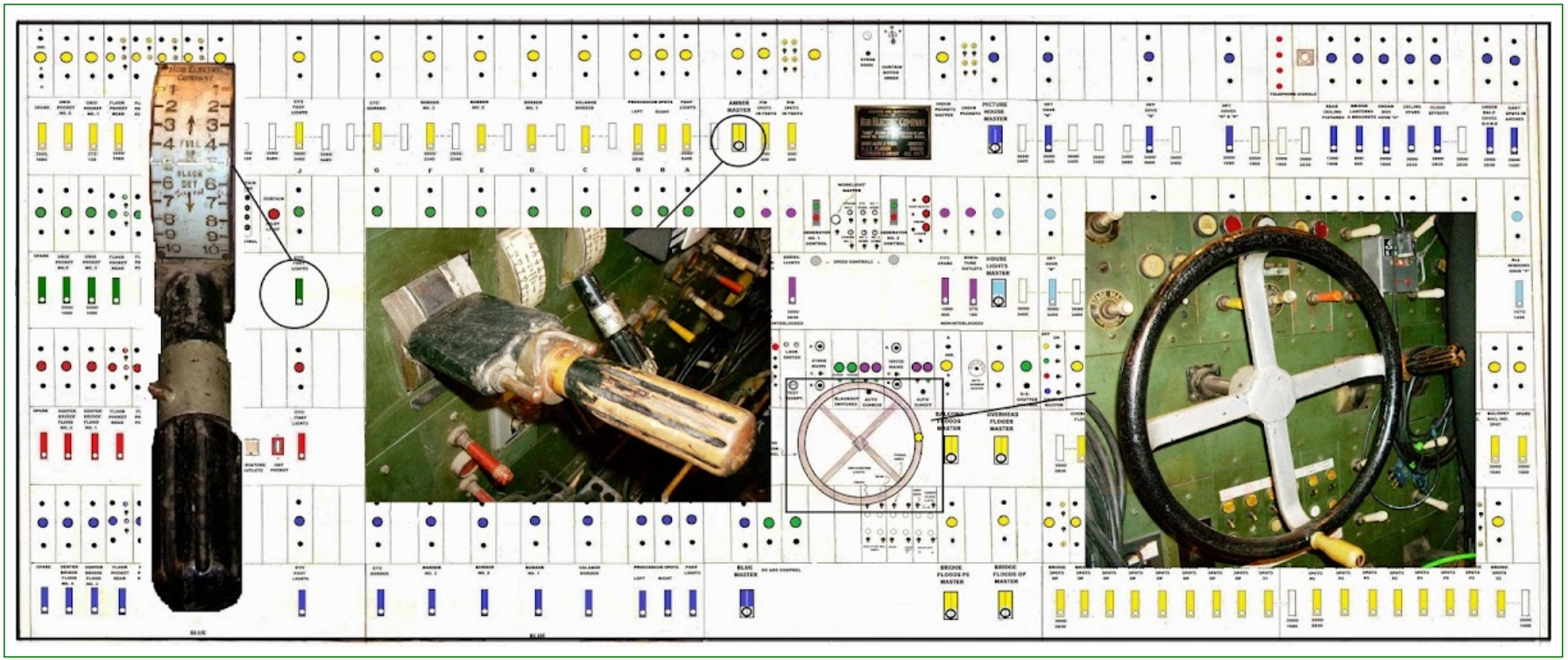
The Fox Switchboard contained 120 dimmer control levers (exclusive of master handles) to operate the 200 resistance dimmers, ranging in capacity from 275 to 3,680 watts, the largest capacity ever manufactured. Dimmers were wired to interrupt the neutral side of each circuits. For the many large loads, multiple dimmers were mechanically ganged to a single control lever (right). The dimmer plates were of two types, single or dual rating.



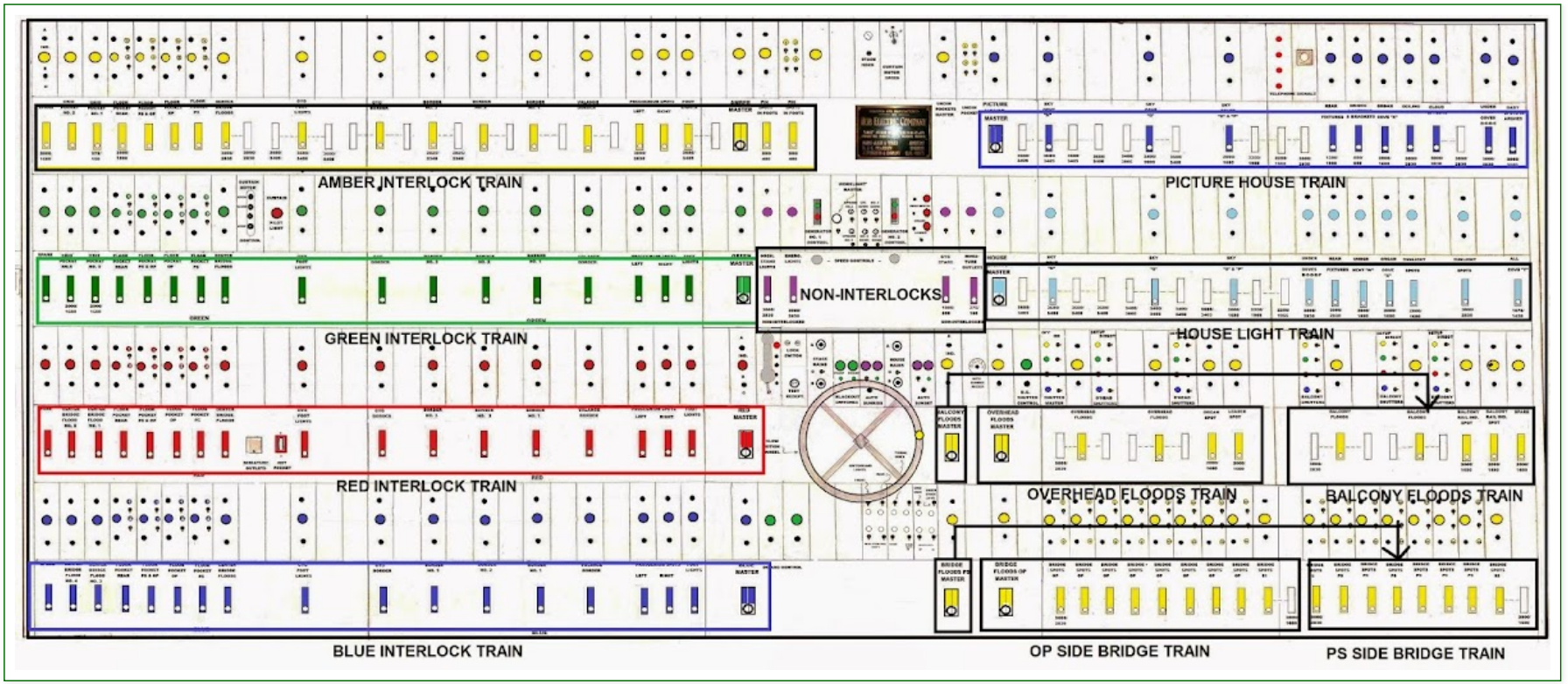
Because resistance plates had to be minimum-loaded in order to dim out completely, dual-rated plates were utilized for floor pockets for example and had a typical range from 1500 to 3000 watts, allowing leeway for portable lighting devices. If the wattage of a device did not reach the minimum, a ghost load or dummy load was added to the circuit, a lamp of the required wattage positioned at an off-stage location. Hinged cleanout doors on the underside of the floor pockets provided an easy cable route to the basement for dummies or ghosts. Hub boards utilized Ward Leonard dimmers, as did Hub's chief competitor Frank Adam, which also used those made by Cutler-Hammer.


WARD LEONARD ELECTRIC CO.
MOUNT VERNON, NEW YORK
VITROHM INTERLOCKING DIMMERS
Figure 1. Japanned side of dimmer plate showing pulley, chain, chain holder and drive rod.
Figure 2. Vitreous enamelled side of dimmer plate showing contacts, balanced contact arm, and silent spring stop.

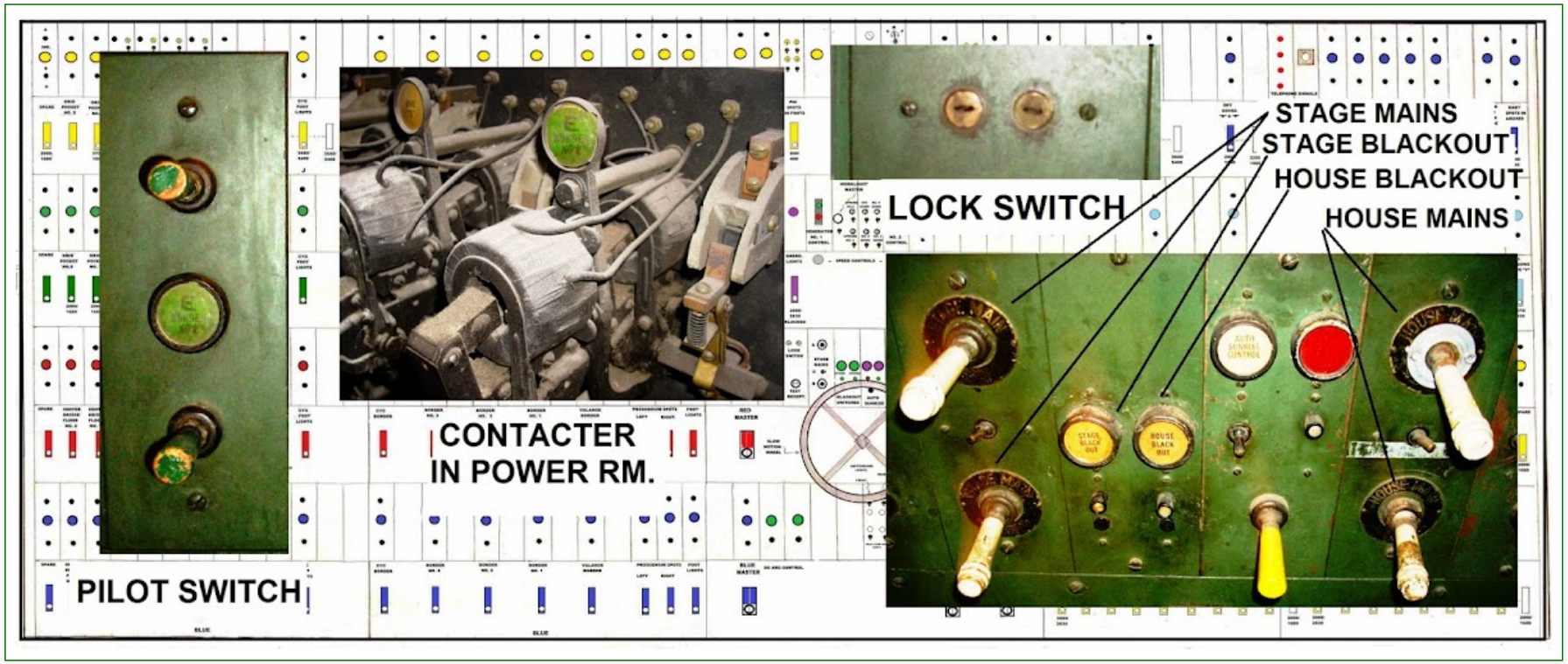
Dimmer control handles (left) could be interlocked into a Master control handle (center) by rotating the dimmer handle a quarter turn clockwise. The Masters could be locked into either the top or bottom of the Slow Motion Wheel (right) by turning the handle to either left or right of center. Thus Masters locked to the top of the wheel could cross fade with those locked to the bottom. The fastest possible complete Board Fade on the Wheel (35 revolutions) equaled a fifteen count. Any dimmer or Master could be left unlocked. Board tracking sheets were complicated, to say the least.



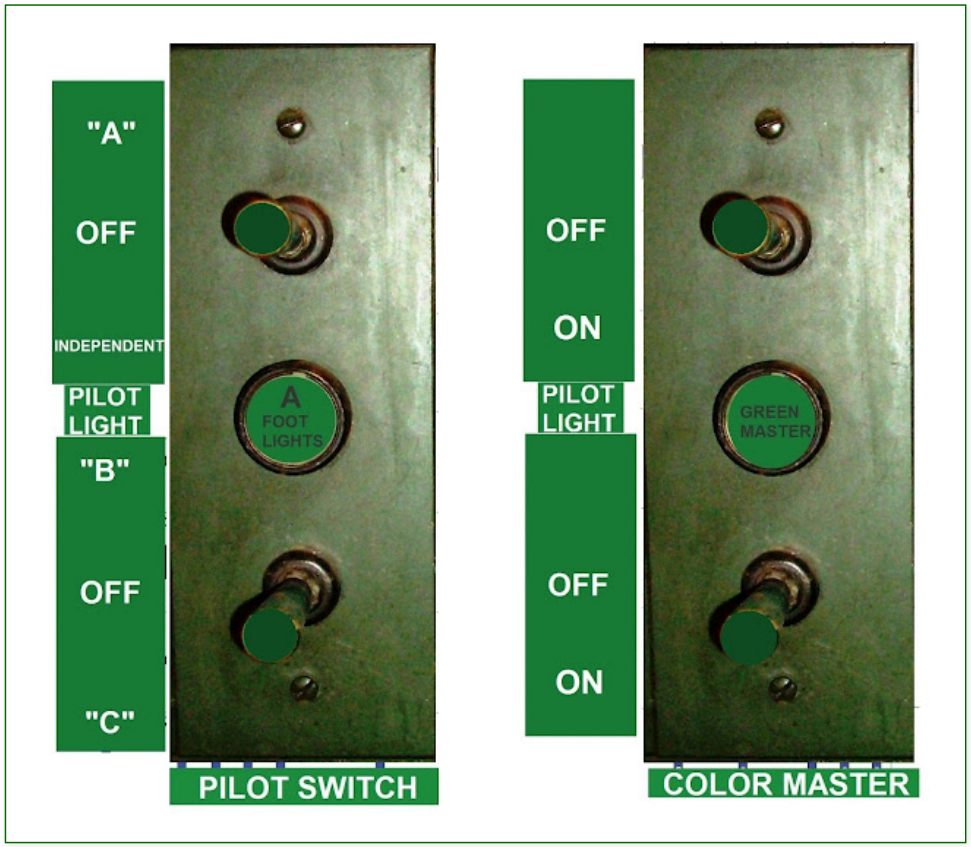
There were ten Master Interlock transmission trains.



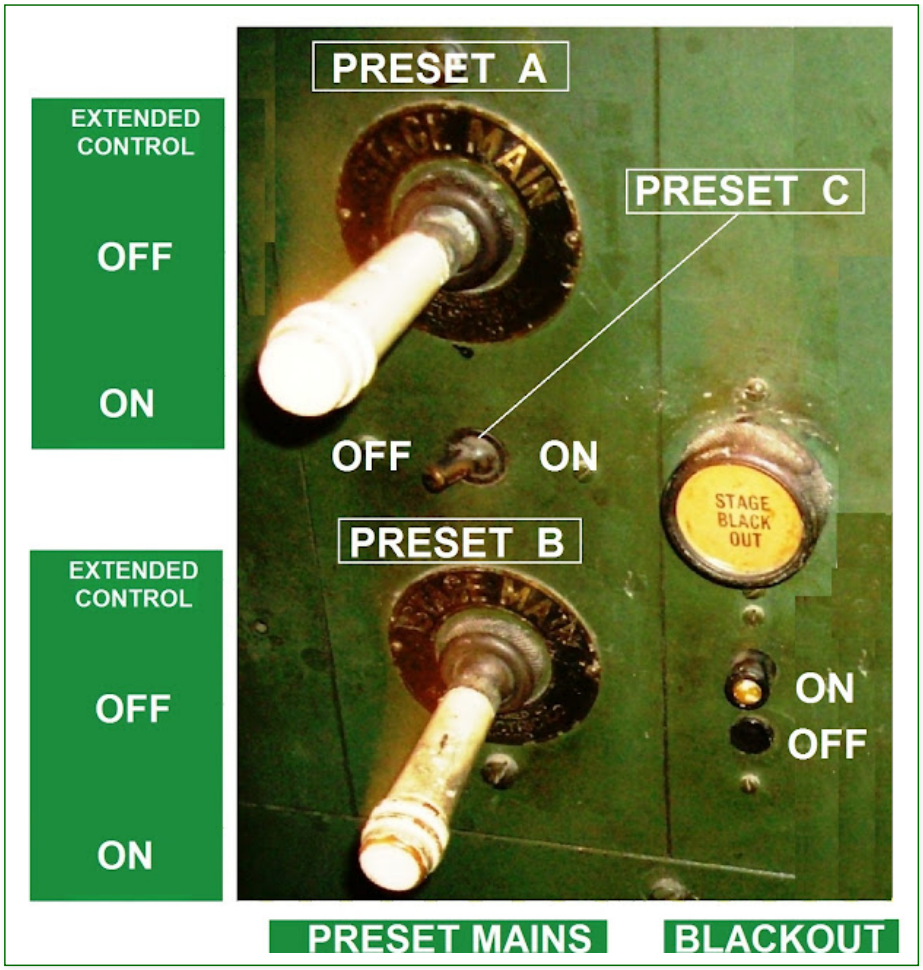
Every dimmer was controlled by a 15 amp capacity Pilot Switch, which activated its circuit's high amperage contactor (magnetically-held relay) in the Power Room located below the Board, and each contactor was equipped with two holding coils to allow for presetting. Line current proceeded in a path through the Lock Switch (Grand Master), Stage or House Blackout switches, Stage or House Mains, Color Master, then to the Pilot Switch.



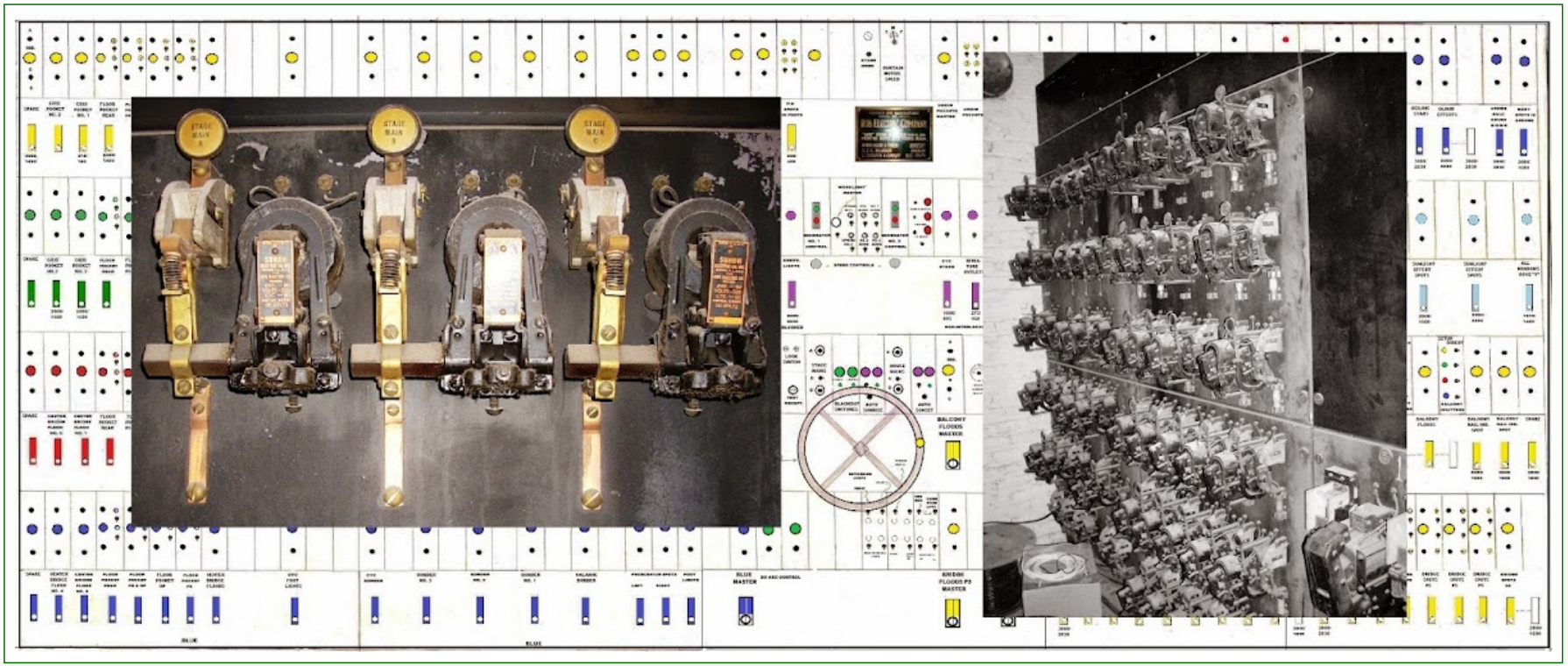
Each pilot switch could be preset to any two of four choices, A or Independent, and B or C. Controls set to "Independent" bypassed the Mains, but not the Blackout Switch. A and B and C selections were controlled by their appropriate Mains, and C with its small tumbler switch was generally used as a rehearsal setting.



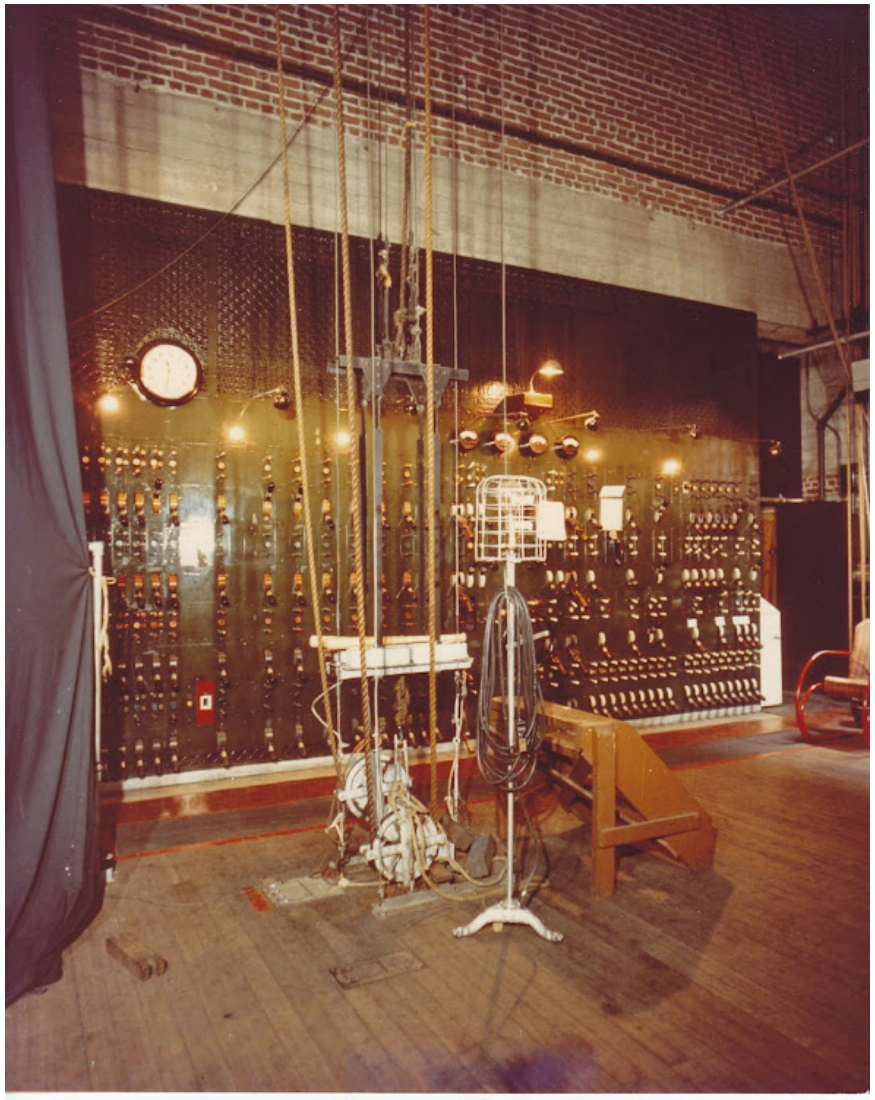
The main controls. Mains could be set to "Extended Control" and thus controlled remotely by any household type switch, such as a practical wall switch within a stage set.



Single coil Contactors for the A B and C Stage Mains (left) and one of four banks of Contactors (right). The largest Contactors were rated for 120 amps.



The Atlanta Fox Theatre Hub Switchboard. The Atlanta Fox was the last Super Deluxe Movie Palace ever constructed.



1974 photo by Floyd Jillson

Part II: Audio and Electro-Mechanicals click here.

Part III: Talking Picture Projection, click here.

For a master index of all of Bob Foreman's photo-essays, click here.

December, 2013
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